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INVESTIGATION OF CONCENTRATION OF ECONOMIC POWER

TEMPORARY NATIONAL ECONOMIC COMMITTEE

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WITH RESPECT TO THE CONCENTRATION OF ECONOMIC
POWER IN, AND FINANCIAL CONTROL OVER,
PRODUCTION AND DISTRIBUTION
OF GOODS AND SERVICES

MONOGRAPH No. 7—8 MEASUREMENT OF THE SOCIAL PERFORMANCE OF BUSINESS

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MEASUREMENT OF THE SOCIAL PERFORMANCE OF BUSINESS

BY

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ASSISTED BY

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The Temporary National Economic Committee is greatly indebted to these authors for this contribution to the literature of the subject under review.

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(Signed) JOSEPH C. O'MAHONEY,
Chairman, Temporary National Economic Committee.

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LETTER OF TRANSMITTAL

Hon. Senator JOSEPH C. O'MAHONEY,
Chairman, Temporary National Economic Committee,
Washington, D. C.

MY DEAR SENATOR: I have the honor to transmit herewith a study on "Measurement of the Social Performance of Business." It bases itself squarely on the premise, to quote President Roosevelt in his message advocating the creation of the Temporary National Economic Committee, that—

* * * a realistic system of business regulation has to reach more than consciously immoral acts. The community is interested in economic results.
* * * The larger, more important, and more difficult part of our problem is to deal with men who are not selfish and who are good citizens but who cannot see the social and economic consequences of their actions in a modern, economically interdependent community. They fail to grasp the significance of some of our most vital social and economic problems because they see them only in the light of their own personal experience and not in perspective * * * for the Nation as a whole.

In this study certain criteria of social performance "for the Nation as a whole" are set up—criteria advanced by such responsible business groups as the National Association of Manufacturers and the United States Chamber of Commerce. The performance of individual industries, of groups of industries, and of the economy as a whole is measured in terms of these criteria. It is urged that these or similar economic tests when carefully made by a bureau of industrial economics afford a basis for the application of corrective measures superior to those traditionally employed.

This study would have been impossible without the generous cooperation of numerous individuals and departments of government. The assistance of the Bureau of Internal Revenue, the Department of Commerce, and especially of Dr. Robert R. Nathan, who gave extensively of his time and information, is hereby gratefully acknowledged. Invaluable aid and criticism was also received from four reviewers: Mr. Blackwell Smith, of the firm of Wright, Gordon, Zachry & Parlin, New York City; Dr. Robert R. Nathan, Chief, National Income Division, Department of Commerce; Dr. Walton Hamilton, professor of law, Yale University Law School; and Dr. Calvin Hoover, dean, graduate school of arts and sciences, Duke University. All of them have read the entire manuscript and offered numerous constructive suggestions.

Above all, I wish to express my deep appreciation for the cheerful and unstinted collaboration of Kathryn Robertson Wright, associate economist of the Bureau of Labor Statistics. She mined all the statistics from most refractory source materials. She has given the whole study painstaking scrutiny.

Needless to say, for whatever errors of fact or opinion that remain, I alone am responsible.

Respectfully submitted.

THEODORE J. KREPS,
Economic Adviser.

AUGUST 21, 1940.

CHAPTER I

TESTS OF SOCIAL PERFORMANCE

Business is not merely nor even in the first instance a struggle of individuals for wealth. It is a way of life, a system of providing goods and services. It is not a segment of the community, cooperating or warring with other segments such as labor, consumers, or farmers. It is not superior or inferior to the community. It is the community engaged in getting its daily bread. Its goals, its ethics, its welfare are inseparable from the goals and aspirations and welfare of the community. No matter how much or how often the business phases of social or community activity may be abstracted, analyzed, and separately discussed, the fundamental and organic unity between business and the community is indissoluble.

Nowhere is more complete acknowledgment made of this fact than by business itself. Thus the National Industrial Conference Board, a research organization largely financed by members of the National Association of Manufacturers, made the following statement in the preface of its extensive survey of business enterprise in the United States:

Any economic system or process of making a living is a part or aspect of the organic life of the individual persons or groups involved. It is not a separate mechanism or arrangement designed or constructed or operated by anybody to supply a group of people called consumers with goods or services, or to distribute to a group called employees amounts of money called wages or salaries, or to provide a group called investors with dividend or interest checks, or to pay taxes to a group called government officials. Neither such a mechanism nor these groups of people really exist at all. * * * People, individual human persons, are the only things there are in any economic system and in any political system. Apart from them there is no such thing as "business" or "government," or even "society."¹

Precisely because business is not separate from the community and by virtue of the very fact that business activity is inextricably a function of community life that which businessmen do must be guided not by that which serves their particular interest but by that which serves the interest of the community. Businessmen are part of the community and their acts are part of community activity. Business, therefore, must take its place in the ranks of those who serve the community.

In no instance has this been more fully appreciated or better stated than by H. W. Prentis, Jr., president of the National Association of Manufacturers, in his speech to the Forty-fourth Congress of American Industry on December 8, 1939. He said:

* * * they [businessmen] must be good stewards of the responsibilities with which individual freedom has entrusted them; they must constantly endeavor to create better conditions of employment by the elimination of health and accident hazards; they must steadily seek ways and means of regularizing employment and

¹ National Industrial Conference Board, *Studies in Enterprise and Social Progress* (New York, 1939), p. xii.

cushioning the effect of advancing technology on the lives and fortunes of their workers; they must raise the standard of living by passing along the benefits of improved technique and quantity production through lower prices and higher wages; they must seek to be industrial statesmen rather than mere businessmen.

In a similar vein the Chamber of Commerce of the United States has repeatedly stressed the social functions of business. Thus, for example, in a widely distributed pamphlet entitled "Policies Supported as in the Public Interest" published in 1936, the chamber has gone on record as follows:

The function of business is to provide for the material interests of mankind, and to increase the wealth of the world and the value and happiness of life. * * * When business enterprise is successfully carried on with constant and efficient endeavor to reduce the cost of production and distribution, to improve the quality of its products, and to give fair treatment to customers, capital, management, and labor, it renders public service of the highest value.²

Business is not an end in itself. Society has not given away to individuals in fee simple millions of acres of land and a vast empire of mineral and power and forest resources without expecting a return. The faith which the American public has in private enterprise is based squarely on the experience and conviction that by permitting individuals to profit from the results of their individual effort, the total production of goods and services and the sum of employment will be greater than under any other system of economic organization.

Private enterprise, like public organization and other forms of enterprise, justifies itself only insofar as it provides the American people with the highest possible level of consumption or standard of living. Any practice that restricts production, keeps up prices to consumers, or keeps down wages and other forms of mass income is contrary to the charter under which business receives public protection and approval. The acid test of business is not the profit-and-loss statement but the social audit.

Concerning the basic elements of such an audit there has been a great deal of controversy. But it has been centered for the most part on certain imponderables that are not capable of exact measurement. Such imponderables are, of course, of great importance. There is no doubt, for example, that the American people want their economic system of free private enterprise to promote (1) the growth, health, and education of the population; (2) resourcefulness and invention; (3) the democratization of business organization; (4) reason and effectiveness in labor organization; (5) international peace; (6) the enlargement of individual liberty; (7) increased opportunity for each individual to develop to the full all his intellectual, aesthetic, spiritual, and economic capacities.

But such tests are difficult, if not impossible, to apply. How measure quantitatively, for example, the extent to which human liberty has been increased even by business as a whole? Freedom for whom? The worker, the management, or the customer? Freedom from what? Factory routine and the regimentation of the assembly line? Or freedom from government interference? Or relief from high-pressure sales propaganda? The room for controversy is large, quantitative measurements nearly impossible.

If difficult or impossible for business as a whole, how much more so for segments of business or for individual industries or for individual

companies. Any attempt to make an objective social audit of business must be limited to the items that are measurable.

These, while few in number, are by no means of small import or significance. In fact they are basic to the concept of business, even as defined by business itself. Note the tests of performance implied, for example, in business as defined by the National Industrial Conference Board. It states:

Enterprise may be broadly described as a way of collective life in which the arrangements and processes of making a living are based upon unconscious, voluntary cooperation of individuals in producing, exchanging, and consuming the greatest possible amount of the goods and services they want with the least aggregate loss or sacrifice to themselves, through their experimental, competitive efforts to utilize available natural resources and develop potential human capacities.³

The measurable social objectives of business implied in this definition are maximum production of goods and services; maximum consumption; maximum pay rolls; minimum cost, i. e., the surrender by consumers of a minimum amount of effort in return for the products of business; maximum employment; full utilization of capacity. Covering all of these items there exist statistics extending over different periods of time, possessing varying degrees of continuity and homogeneity. The problem of selection is difficult but imperative.

In this study hundreds of statistical series were examined and tested, numerous adjustments made.⁴ But the scarcity of data together with the limitations of time and funds which made impossible any attempt to collect new figures on a large scale have restricted this attempt at a social audit of business to the 20-year period from 1919 to 1938 and in addition limited it to only six measurements:

1. *Employment*.—What has happened to the number of workers who have been afforded opportunity for utilizing their abilities? No correction has been made for underemployment due to voluntary industrial make-work programs nor has any account been taken of the shortening of the workweek since 1919. Comparison is made merely of the numbers at work.

2. *Production*.—What has happened to the size of the stream of physical goods produced? No adjustment was attempted for changes in usability such as the greater mileage per barrel of petroleum nor for changes in quality or shifts in the size of the unit typically produced such as the purchase in recent years of relatively more lower-priced cars.

3. *Consumer effort commanded*.—What has happened to the cost of the stream of goods produced? How much has exchange value in terms of other goods and services changed? When the price of wheat drops by one-half the farmer has to do twice as much work to pay a given amount of debt. What has been the experience of consumers? What have they been compelled to surrender in exchange for what they got?

These three may be said to constitute the real or physical tests of social performance, performance measured, be it noted, in each case against performance by the industry or business itself in a base year, 1927, or base period 1923–25.⁵ In addition three dollar tests are made.

³ National Industrial Conference Board, op. cit., p. xiii.

⁴ For a discussion of methodological problems and a description of the series used, see appendix A.

⁵ Reasons for selecting these years are given in appendix A, p. 128.

4. *Consumer funds absorbed.*⁶—What has happened to the stream of dollars which the industry (broadly regarded as including the management, stockholders, bondholders, and laborers but excluding suppliers of raw materials and the Government) has collected from the public and its customers, in exchange for services rendered? Relative to collections in the base period or base year what has happened to the flow of consumer purchasing power absorbed by the industry in other years?

5. *Pay rolls.*—What has happened to the size of the income stream going to laborers in the form of pay rolls? How does mass intake here compare with mass outgo in the form of consumer purchases?

6. *Dividends and interest.*—What has happened to the flow of funds paid out to the proprietorship account in the form of dividends and interest? Is the trend here above, below, or the same as that for pay rolls or consumer funds absorbed? Due to the lack of adequate data, dollar receipts of the owners and controllers of enterprise in the form of rents, royalties, commissions, managerial salaries, etc., are ignored. In most industries (exceptions will be noted) rents and royalties are not important. They have decreased a good deal during the depression. Managerial salaries are likewise a relatively small item, at least in the industries characterized by large-scale production.⁷ Relative to pay rolls they declined less during the depression but have in most industries increased less rapidly in the last few years. Where returns to the owner-operator are important, as in agriculture, they have been included as part of the income to labor.

In comparing dividends and interest with, say, pay rolls, one should be careful not to exaggerate or deny the importance of disparities of fluctuation; on the one hand, no exaggeration:

The emergence and existence of disparity emphatically does not per se prove or indicate that dividend and interest payments have been paid out of wages or subtracted from them. * * * It merely shows that the fluctuations were not the same. * * * Both categories, be it noted, combine a stable item with an unstable one; interest with dividends, salaries—and wages in sheltered industries with wages in the unsheltered or heavy industries.⁸

On the other hand, let not preoccupation with present legalisms bias one toward denying the validity of lumping dividend payments with interest payments and comparing them with pay rolls which lump together wages and salaries. The former represent a substantial portion of the payments to owners as a group (though among them many are both debtors and creditors), the latter comprise nearly all the income of the workers as a group. Pay rolls are properly comparable with dividends and interest.⁹

⁶ Those seeking at once an explanation of the limitations of the terms and concepts here introduced should turn to appendix A, especially pp. 128-133.

⁷ See appendix D, table 2, p. 181 below.

⁸ T. J. Krepes, "Dividends, Interest, Profits, Wages, 1923-35," *Quarterly Journal of Economics*, vol. XLIX, p. 564.

⁹ See p. 93 below. Editor's footnote: "While the logic of the combination can be recognized, from the point of view of a statement of payments made to the owners of capital, the combination leads to serious misapprehension when compared with trends in pay rolls and other things over a period of time. A comparison of pay rolls with interest is relatively unimportant because interest charges are rarely, if ever, voluntarily assumed. On the other hand, a comparison of pay rolls with dividends produces a result almost opposite in nature, if taken separately from interest. In other words, if the meaningless comparison with interest is not permitted to bury the interesting comparison with dividends, a very different picture is obtained which indicates the impropriety of permitting interest to obscure the facts as to dividends. The implication that maintenance of interest and dividends through bad times is significant is quite unsatisfactory because the interest has to be maintained and the dividends, in fact, are not, in most industries. In other words, where the element of management discretion enters, the sacrifice of dividends is likely to be as drastic, if not more so, than the sacrifice in pay roll."

"Even in the evaluation of pay roll trends, the sacrifice of volume where there is no customer for the goods is meaningless, and therefore some differentiation is indicated between durable-goods industries and others with postponable demand, on the one hand, and nondurable, nonpostponable demand situations on the other."—Blackwell Smith.

These six items by no means constitute a complete or thorough-going audit. For they give no indication of such vitally important facts as percent of capacity operated, investment outlets provided, opportunity for new entrants, stability of operations, fullness of use of patents, modernization, tariff- or subsidy- or nuisance-cost to consumers and the like. None of these tests indicates whether business is making a wise use of our natural resources, preventing soil erosion and wasteful exploitation. Nor do they permit evaluation of the impact of business, business publicity and business standards on the spread via newspapers, magazines, motion pictures, and radio of scientific economic fact. Nor is any measurement made of the extent to which the dollar sign has been placed on the sacred religious, aesthetic, cultural, and ethical aspirations of the American people.

But the six tests enumerated above do afford a ray of illumination on each of six important kinds of business policy. The figures on employment give a fragmentary critique of the employment policies of an industry. Those on production measure to a certain extent the amount of restraint on production. When compared with employment they indicate industrial policies on technology. The series on consumer effort commanded shows in part the relative strength of industrial prices and the social cost or benefit of industrial price policies. The figures on consumer funds absorbed measure the stream of funds available for apportionment (to labor and to the proprietorship account), while those on pay rolls give an important clue to wage policies. The series on dividend and interest payments indicates in a general way the nature of business policies vis-à-vis stockholders and bondholders. In each instance the series used affords a sharp indication of social benefit or detriment, though it by no means affords a conclusive answer.

Industries may, for example, show large increases in employment during the period from 1919 to 1938, and employment policies in general be none the less unsatisfactory when measured by figures, e. g., on labor turn-over, child labor, hours of labor, or hiring of members of trade unions. Production may likewise have increased but production policies be antiquated when measured by expenditure for research, by amount of irreplaceable natural resources utilized, by cost of production, or by quality of product.¹⁰ In short, in no instance does one set of figures afford a complete, well-rounded audit even of the item measured whether it be employment, production, consumer effort commanded, consumer funds absorbed, pay rolls, or dividends and interest.

In the forthcoming chapters it is planned to utilize these 6 tests to measure the social performance first of some 22 individual industries (ch. II), next of some 9 segments of the economy (ch. III), then of 3 individual companies (ch. IV), and subsequently to make an extremely fragmentary analysis of the social performance of all

¹⁰ Editor's footnote—"Taking the criteria of social performance as a whole, some method must be found, before the system is thoroughly workable, to properly weight the judgment in favor of efficiency of production that involves reducing employment and pay rolls relative to unit of product, thereby making available additional reserves of employables and funds for production of more goods. In other words, increased employment and pay rolls are not in themselves advantages, unaccompanied by advances in efficiency and passing on of the advantages to the consumer. One serious weakness in the total collection of standards here presented, which is admittedly very difficult to remedy, is the absence of recognition or measurement of increased values and improvements in quality, etc."—BLACKWELL SMITH.

corporations (ch. V), and of the economy as a whole (ch. VI). In chapter VII certain emergent patterns of social performance are discussed, while the concluding chapter is devoted to indicating how a bureau of industrial economics might use measurements of this sort as economic criteria to assess the need or lack of need for application of techniques of social control.

CHAPTER II

SOCIAL PERFORMANCE OF TWENTY-TWO INDUSTRIES

The 22 industries studied in this chapter comprise, in addition to steam railroads and the utilities, the largest of the mining and manufacturing industries. Together these account in boom times for more than 75 percent of all employment in manufacturing, mining, and public utilities. Some are highly competitive, others strongly organized. All types of products are included—raw materials, finished manufactures, durable, nondurable producers' and consumers' goods. In each instance one of the major reasons for including the industry is that reasonably satisfactory statistics could be pieced and spliced together.

In each case a chart will be shown giving indexes for the period 1919 to 1938. Each will be divided into two parts: the top section comparing annual fluctuations in employment, production, and consumer effort commanded; the bottom section comparing covariation in the annual dollar totals of consumer funds absorbed, pay rolls, and dividends and interest. In analyzing the charts the following sets of questions have been put to the data:

1. Taking each curve in turn (employment, production, consumer effort commanded, consumer funds absorbed, pay rolls, and dividends and interest), does one find a net increase or decrease, that is, is the curve higher at the end of the period or lower than it was in some earlier year or period, say 1929, or the base year?

2. Is the average amount of such increase or decrease per year relatively large or small compared, for example, with that for industry as a whole?

3. Is such increase or decrease steady or are there pronounced cyclical variations?

4. Taking groups of curves, does one find pronounced divergence from the relationships that existed in the base year or base period or have these remained substantially the same? At no time should the mistaken inference be made that any particular relationship is assumed to be "normal" or "good" or "ideal" in the base year. Nor do divergence or confluence of the curves indicate or measure anything more than a departure from, or persistence of, those relationships. Thus, for example, pay rolls or dividends and interest relative to consumer funds absorbed may in some industries have been abnormal in the base year or base period; so also the relation of employment to production or of total output to the amount it commanded in the market. The charts measure. They do not evaluate.

While these are the questions asked, the answers are in many instances of insufficient significance to warrant special mention. Consequently, only the statistical highlights are dealt with. Moreover, no attempt is made to explain why an industry performed as it did. The reasons for such performance are as numerous and varied

as the executive decisions, market forces of demand and supply, legal compulsions, and institutional influences which affect modern business. Even to understand completely a single chart requires a sketch of two decades of economic history for each of the industries concerned, a task far beyond the scope of this study.

BAKING AND CONFECTIONERY INDUSTRY

The facts for the baking and confectionery industry are shown in chart 1. It is an industry which in 1938 employed 5 persons for every 4 that were employed in 1927. Employment has increased faster than production, due in part to a reduction in the length of the workweek from levels of over 50 hours in the twenties to about 42 at the present time. Production has similarly exceeded 1927 and 1929 levels substantially keeping pace with the growth in population. It has also been steady. At the same time, the baking and confectionery industry has commanded smaller amounts of consumer effort—in other words, prices of bakery and confectionery products have gone down more than has the index of general prices which includes all goods, wages, and rents. The industry has been steadily rendering more service to the public, at the same time offering more opportunity for those seeking jobs.

In turning to the bottom section of the chart, note that the industry has expanded its pay rolls faster than its payments to stockholders. In short, by its wage disbursements it has injected into the stream of mass buying power an unusually large proportion of total funds absorbed. In 1937 it collected net from the public only \$94 for every \$100 it absorbed in 1927 while paying out 15 percent more in wages. Dividends and interest payments have remained relatively low.

The baking and confectionery industries have been combined, because thereby it was possible to make use of the Bureau of Internal Revenue data on dividends and interest which are not available for the two industries separately. The production indexes for the two industries also correspond rather closely. Furthermore, the baking industry accounted for almost 75 percent of the total employment and about 80 percent of the pay rolls and consumer dollars absorbed in the base year. Thus the chart reflects predominantly the trends in the baking industry. In short, the figures are homogeneous.

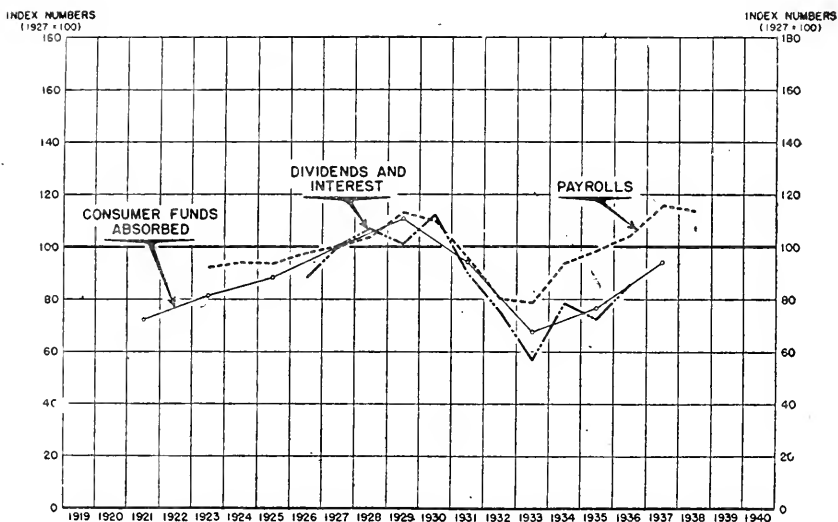
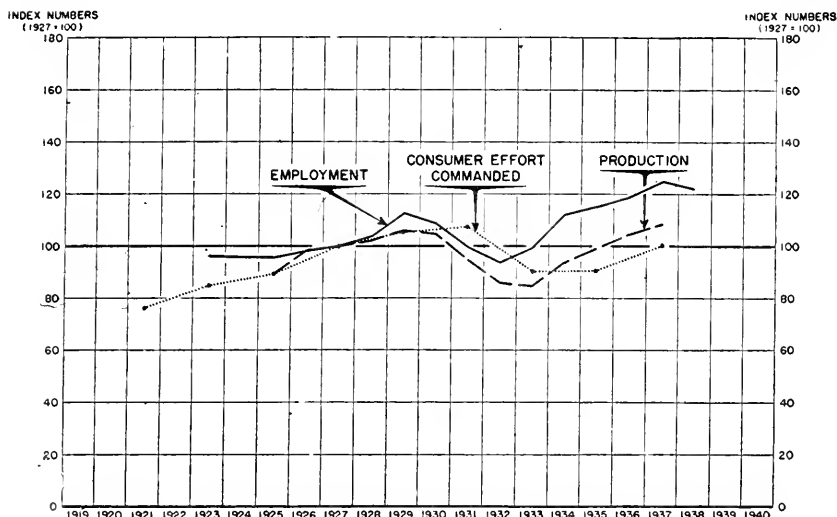
The industry as a whole satisfactorily meets all the social performance tests. But the pattern for individual areas may, of course, be considerably different. The baking industry varies considerably from city to city. Regionally the prices for baking products between 1927 and 1937 show dissimilar fluctuations. The price of bread in Chicago in 1937 was 77.7 percent of the 1927 price; in Cincinnati, 89.9 percent; in New Orleans, 91.5 percent; in New York, 96.9 percent; and in San Francisco, 101.7 percent.

Such difference in pattern from that for the industry as a whole exists not only regionally but also appears between different types of products. Thus, according to data taken from the Census of Manufactures covering both baking and confectionery prices for the country as a whole, the prices of bread, rolls, and coffee cake were almost exactly the same but 1937 prices for biscuits, crackers, and cookies declined to about 73 percent of their 1927 averages and pretzels to 65 percent. Prices of confectionery goods have decreased much more than those for bread.

CHART I.

SOCIAL PERFORMANCE OF THE BAKING AND CONFECTIONERY INDUSTRY

UNITED STATES, 1921-1938



Finally, in interpreting the chart one should remember that the margin represented by "value added by manufacture" (the statistic here used to represent consumer funds absorbed) depends not only on volume of production and prices but, since "value added" is a residual, on what happens to the prices of the items whose cost is deducted, that is, raw materials, containers, power, and so forth. If there is a considerable rise, for example, in the prices of raw materials, the margin representing consumer dollars absorbed may show a decline simply because the price and volume of production of the finished articles are not likely immediately to show a compensating rise. Thus in the case of confectionery goods the margin representing consumer dollars absorbed declined 29 percent while the value of products declined only 22 percent due in large part to the fact that the prices of containers and of certain raw materials relative to 1926 were higher in 1937 than those of the finished products.

KNIT GOODS INDUSTRY

The industry manufacturing knitted outerwear, hosiery, underwear, children's wear, and the like, has grown steadily in the last 20 years, reaching levels of production in 1937 nearly double those of 1919. As is evident from chart 2, employment has likewise increased beyond 1919 levels, the figure in 1937 being a third higher. Particularly favorable, however, is its price record. Notice that the curve of consumer effort commanded, while paralleling that of production until 1927, has steadily diverged until in 1937 it was nearly 40 points below the figure for production. The exchange value of knitted goods, in other words, has gone down. The knitted goods industry is giving a greater amount of service in return for the dollars it secures from the public.

The industry is also disbursing more in wages per dollar of funds collected from the public than it did in the twenties. While total pay rolls have not reached 1929 levels, they do exceed the average level of the twenties. Dividends and interest in this industry have throughout remained low.

CANNING AND PRESERVING INDUSTRY

The canning and preserving industry by 1937 had increased its employment 65 percent above the level of 1927 and nearly 30 percent above that of 1929. In fact, employment (see chart 3) increased somewhat faster than production, again due in large part to a reduction in the length of the work-week. The additional fact should be borne in mind, however, that operations in the industry are highly seasonal. Figures concerning the average number of employed tend to hide such underemployment and are likely to be high when compared with production and pay rolls. These obviously reflect the length of time worked—that is, total man-hours rather than number of workers on pay roll.¹

¹ For detailed discussion of this point, see Biennial Census of Manufactures, 1937, pt. I, p. 86.

CHART 2.
**SOCIAL PERFORMANCE OF THE KNIT
 GOODS INDUSTRY**
 UNITED STATES, 1919-1938

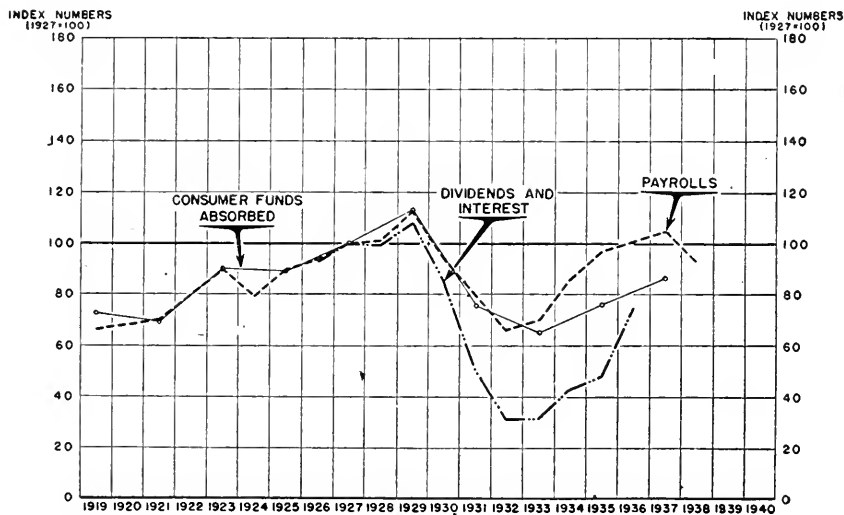
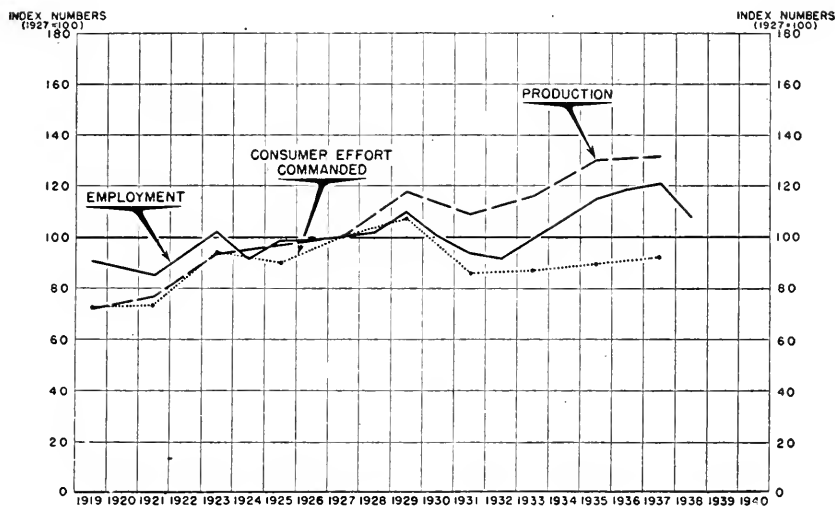
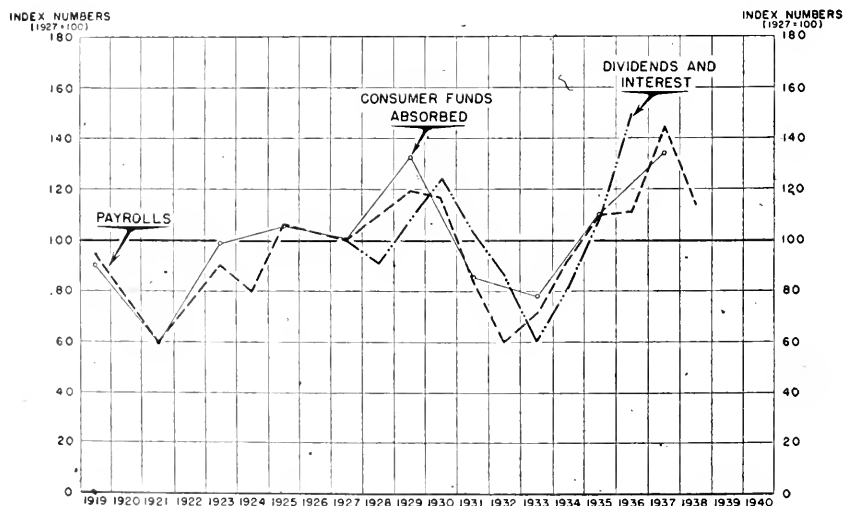
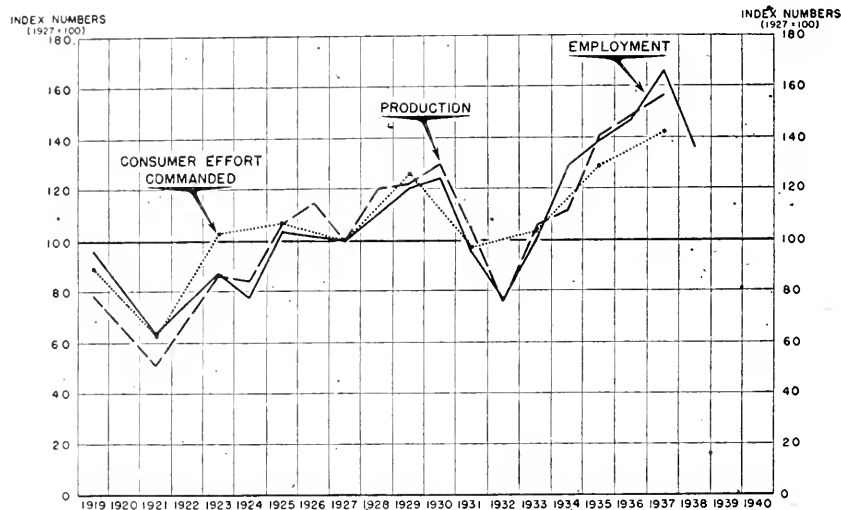


CHART 3.
**SOCIAL PERFORMANCE OF THE CANNING
 AND PRESERVING INDUSTRY**
 UNITED STATES, 1919-1938



This industry has not only increased its production more than 25 percent beyond 1929 levels but has been offering it at prices which afford consumers more for their money. The amount of consumer effort commanded since 1929 has steadily remained below production, indicating a lower exchange value for products of the canning and preserving industry.

In looking at the dollar figures, notice that pay rolls have in the main kept pace with the number of dollars absorbed from consumers, being somewhat lower in 1929 and rising to levels somewhat above consumer funds absorbed in 1937. The dividends and interest record shows an interesting lag behind pay rolls, rising in 1930 by more than 20 percent over 1929 and falling less rapidly in 1931 and 1932. But they continued to fall in 1933 while pay rolls began to pick up. By 1936 they were again nearly 35 percent higher than pay rolls and indeed nearly 40 percent larger than the total for dividends and interest in 1929.

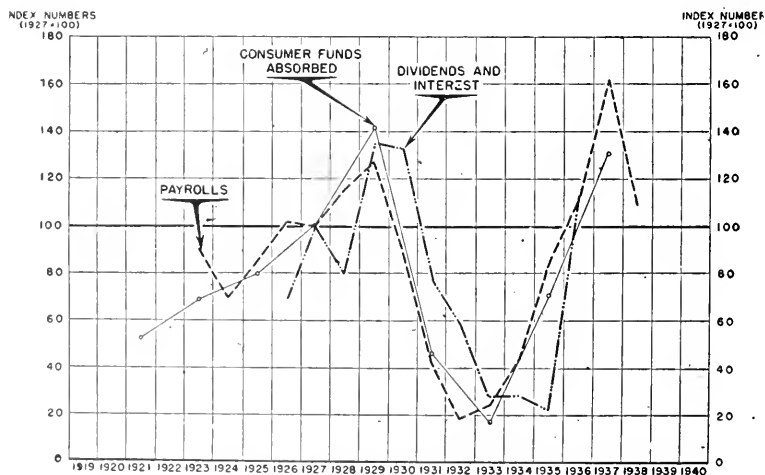
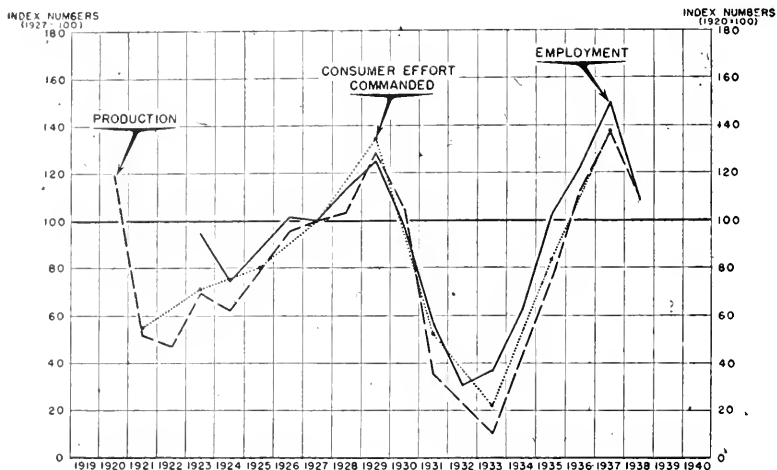
AGRICULTURAL IMPLEMENTS INDUSTRY

In recent years a good deal of attention has been given to the agricultural implements industry. The cyclical variations in its production and prices have frequently been contrasted with the course of output and prices in agriculture. During the depression the volume of agricultural products remained relatively steady, but note in chart 4 the terrific drop in the production of agricultural implements. The indexes of production fell from 128.7 in 1929 to 10.8 in 1933 and rose back to 137.5 in 1937. The high is 13 times the low. The swing in employment has been less, falling from 125.3 in 1929 to 37.3 in 1933 and rising to 150.1 in 1937. Employment since 1929 has, on the whole, been kept at levels higher than production.

Consumer effort commanded has likewise been kept at levels higher than production, especially since 1927. In fact, in 1933 the exchange value of agricultural implements was roughly twice as great as it had been in 1927; that is, more than twice as much community effort was required to buy a unit of product in this industry as was required in 1927 or 1937. The index for production declined to 10.8, that for consumer effort commanded to only 22.3.

In turning to the bottom part of chart 4, note that pay rolls also show extraordinary fluctuations going down from 126.9 in 1929 to 19.3 in 1932, rising to 161.7 in 1937, a more than eightfold increase in pay rolls in the 5-year period. But in the thirties they have consistently stayed above the amount of consumer dollars absorbed; that is, a proportionately larger share of the dollar which the industry received from consumers has been paid out to labor. On the whole, pay rolls have also been kept above dividends and interest payments although here again should be noted the lag in readjustment downward in the early thirties. The chart strikingly shows the instability of the industry, an instability which during the trough of the depression made it one of the poorest performers in the economy.

CHART 4.
**SOCIAL PERFORMANCE OF THE AGRICULTURAL
 IMPLEMENTS INDUSTRY**
 UNITED STATES, 1919-1938



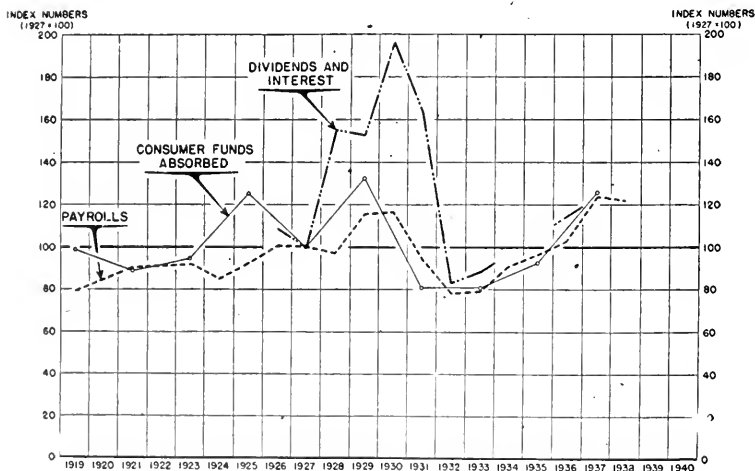
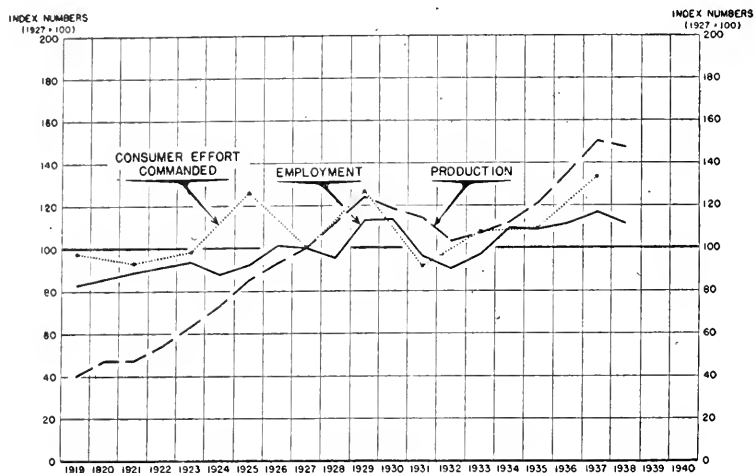
PETROLEUM REFINING INDUSTRY

In few industries has the productivity of labor increased more rapidly in recent years than in the refining of petroleum. With an output 50 percent above 1927 levels (see chart 5) the industry has increased employment by one-sixth. It has also passed on a good deal of the benefits to consumers particularly in the thirties. Notice that the line of consumer effort commanded forms a scissors with that of production from a point in which the index was roughly $2\frac{1}{2}$ times that of production in 1919 to one in which it is only 9 percent of production in 1937. Pay rolls have kept pace throughout with the trend in consumer funds absorbed. The industry has tended to disburse to its workers in the form of pay rolls about the same percent of the consumer dollar.

The dividends and interest series fluctuates widely, increasing 96 percent from 1927 to 1930. Even in 1931 it was 64 percent above 1927 figures. Precisely what the figures should be in 1934 and 1935 cannot be ascertained from the data as published by the Bureau of Internal Revenue. Petroleum refining is classified by the Bureau under "Chemical and allied products," but in 1934 a change was made in industrial classification which made subsequent data incomparable. From the record of certain large petroleum corporations and their dividend disbursements in 1934 and 1935 as reported in the Wall Street Journal and in the publications of the Standard Statistics Co., the fact is known that dividends and interest disbursements on the whole did not seriously depart from the levels of 1933. In short, they were not out of line with the trend in consumer funds absorbed.

In conclusion, the fact should be noted that the curve of production in the petroleum refining industry is an excellent indicator of consumer enjoyment. As is well known, the record of depressions is usually kept in terms of the production of durable goods such as iron and steel, building materials, and the like. Yet consumer enjoyment depends not on the number of new houses but on the total amount of housing available and the use made of it, not on the number of new cars produced but on the total number of cars in use and the mileage which those cars run. The index of petroleum refining faithfully reflects the use made by consumers of their automobiles, together, of course, with such other facts as the use of oil burners in the home, use of steamships, Diesel engines, and the like. Thus in terms of consumer enjoyment this index would tend to show that the level of consumption fell about 20 percent between 1929 and 1932, the 3 years in which the Federal Reserve Board index of industrial production fell more than 50 percent. Since 1932 it has increased by nearly 50 percent to a level more than 20 percent higher than in 1929. This is not only an increase greater than that of the population as a whole but an increase conservatively stated inasmuch as technical improvements both in the extraction of values from petroleum and in the utilization of gasoline and kerosene by automobiles and other internal-combustion engines have considerably increased the amount of consumer enjoyment from a gallon of gasoline or kerosene.

CHART 5.
**SOCIAL PERFORMANCE OF THE PETROLEUM
 REFINING INDUSTRY**
 UNITED STATES, 1919-1938



AUTOMOBILE INDUSTRY

The automobile industry from a cyclical point of view is one of the more unstable industries in the economy, manufacturing a durable consumer's goods, the purchase of which can be and is postponed during periods of unemployment and low income, though those already on the road are more intensively utilized. The number of motor vehicles sold even in good years such as 1937 is somewhat less than a fifth of the total number of motor-vehicle registrations. In average years it is less than a sixth. So far as cyclical stability is concerned, the rating of the industry is at best unsatisfactory. But in terms of trends the industry employed more men in 1937 (see chart 6) than in any other year in the period from 1919 to 1938. Production was likewise higher than in any other year except 1929. Furthermore, the amount of consumer effort commanded has tended steadily downward. In comparing 1925 and 1935, note that production increased 10 percent but the exchange value of that production was a fourth lower. The consumer's dollar, in other words, went about a third further.

One qualification should, however, be kept in mind. While prices have declined to some extent in this industry a good deal of the increased spread between production and exchange value is due to the fact that in recent years relatively more small and moderate priced cars have been merchandized than during the twenties.

Turning to the dollar figures, note that pay rolls have more than kept pace with the dollars turned over to the automobile industry by consumers. In other words, a larger share of the consumer dollar goes to labor now than went to labor in 1929 or 1925. But the instability of pay-roll disbursements has been marked, the index declining from 122.1 in 1928 to 41.1 in 1933, rising threefold to 123.4 in 1937. A similar instability characterizes dividends and interest disbursements which declined in 1932 to about one-fourth what they were in 1928 and increased fourfold in 1936 over what they had been in 1933. The automobile industry as a matter of fact has been a bonanza among industries in the economy.

BOOT AND SHOE INDUSTRY

The boot and shoe industry, on the other hand, is one of the most stable industries. In the 20-year period since 1919 (see chart 7) the index of production has never fallen lower than 78 in 1921 nor risen higher than 115.5 in 1936. Employment has been even more stable though in recent years it has not kept up with production due to certain rather striking technological advances. Relative to 1929 a 6 percent larger number of employees in 1937 were putting out a 10 percent larger volume of product. The price record of the industry has been most commendable. Compared with 1927, for example, it gave the consumer 14.4 percent larger volume of service in 1937 while receiving from him in return in terms of effort 16.6 percent less. It gave one-seventh more and got one-sixth less in return, though providing increased employment opportunity.

Pay rolls, however, have not been so stable. In 1932 they were 40 percent lower than in 1927. Even in 1937 they failed by more than 15 percent to reach the level of 1927 and by nearly 30 percent to reach the level of 1923. Dividends and interest, on the other hand,

CHART 6
**SOCIAL PERFORMANCE OF THE
 AUTOMOBILE INDUSTRY**
 UNITED STATES, 1919-1938

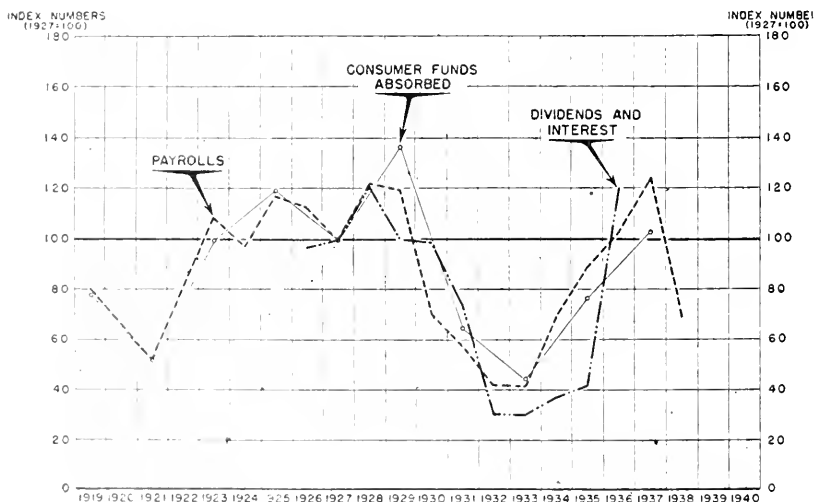
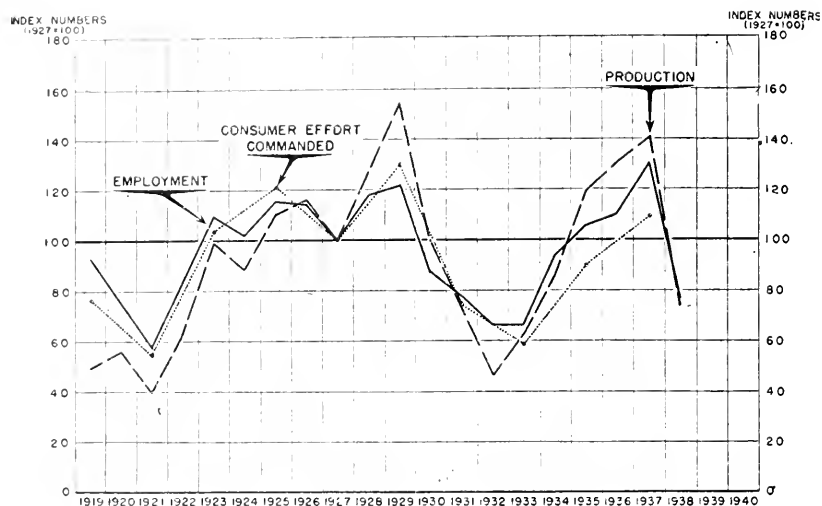
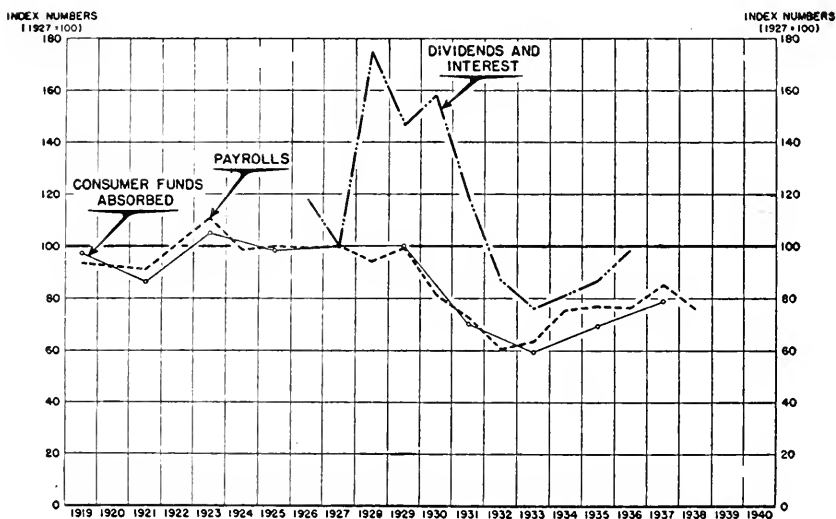
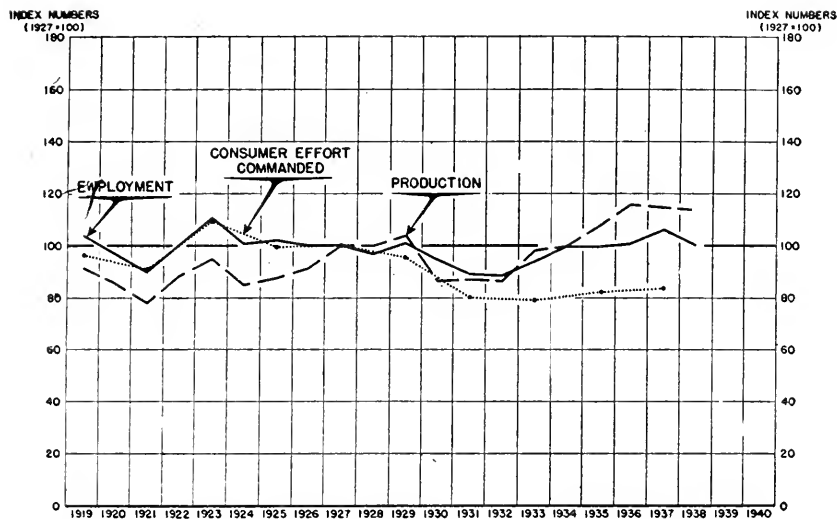


CHART 7.
**SOCIAL PERFORMANCE OF THE
 BOOT AND SHOE INDUSTRY**
 UNITED STATES, 1919-1938



have held up remarkably well, the percent of consumer funds absorbed going to dividends and interest increasing noticeably between 1927 and 1930 and still being considerably out of line in 1936. The volume of shoes sold to consumers was one-seventh larger in 1937 than in 1927; the amount of money received was nearly 22 percent less.

SLAUGHTERING AND MEAT PACKING INDUSTRY

In the slaughtering and meat packing industry employment in recent years (see chart 8) has run well ahead of production due possibly to the decreased length of the working day. The amount of consumer effort commanded has likewise run ahead of production. The industry is one therefore which is requiring more goods from the public in return for what it gives. In 1937 the industry produced 10 percent less product and commanded 8.7 percent more consumer effort than it did in 1927. But it also employed 7 percent more laborers.

Despite the fact that production was 10 percent lower in 1937 than in 1927, the number of consumer dollars absorbed was 2.2 percent higher. But pay rolls were also higher by 5.5 percent. Most unstable of the income streams has been that going to stockholders. From a level of 117.7 in 1929, it declined to 8.1 in 1932 since which time it has increased nearly eightfold to 62.7 in 1936. During the depression, in other words, the slaughtering and meat packing industry decreased most of all the payments going to stockholders and maintained a relatively steady volume of pay rolls and of employment.

COTTON GOODS INDUSTRY

The cotton goods industry, while also a consumer-goods industry, shows fully as much instability as did the Federal Reserve Board index of general industrial production. In chart 9 notice that despite the considerably decreased length of the working day, the amount of employment has barely kept pace with the amount of production, indicating the substantial increase that has taken place in man-hour productivity. Employment in the industry at no time regained the levels of 1927 even though in 1937 it did reach the levels of 1929. But its product has also never been able to command the amount of consumer effort since 1927 that it commanded in that and certain other previous years, notably 1923 and 1919. In short, as is well known, the prices of cotton goods have been low relative to the prices of other finished manufactures.

Turning to the dollar figures, note that the instability there is greater than that in production or employment. Pay rolls in 1932 were down to only 41 percent of what they had been in 1927. Though they had doubled by 1937 they never reached the 1927, 1923, or 1920 levels. But neither for that matter did the income stream absorbed from consumers ever reach the 1927 level. In 1937, despite the fact that production was only 5 percent less than in 1927, the dollars absorbed from consumers were more than 20 percent less, while those paid out to labor were 17.7 percent less. Even greater, however, has been the diminishing income of those receiving dividends and interest. While increasing in 1928 and 1929 over 1927, such payments in the thirties never came up to 60 percent of that level. Stockholders in the cotton goods industry have not fared well. They probably have little responsibility for the present excess of idle money.

CHART 8.
**SOCIAL PERFORMANCE OF THE SLAUGHTERING
 AND MEAT PACKING INDUSTRY**
 UNITED STATES, 1919-1938

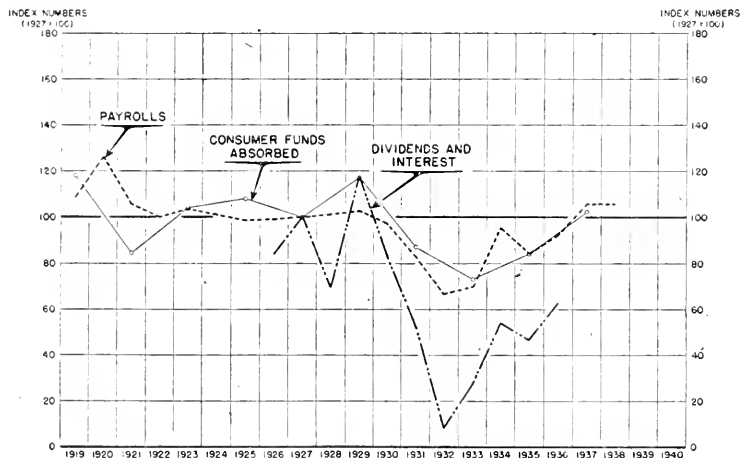
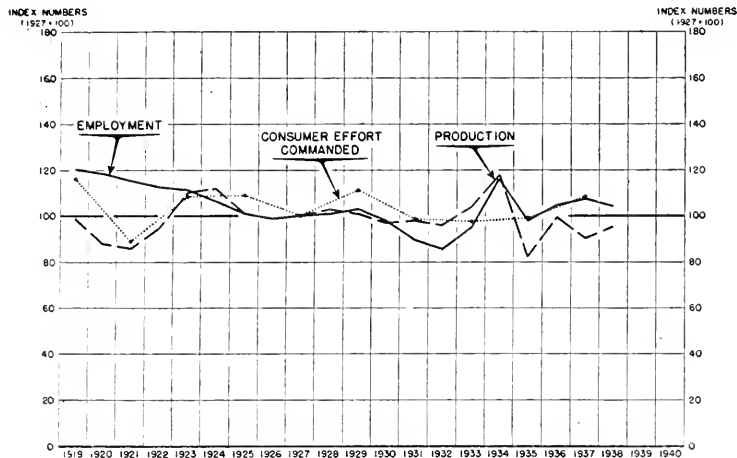
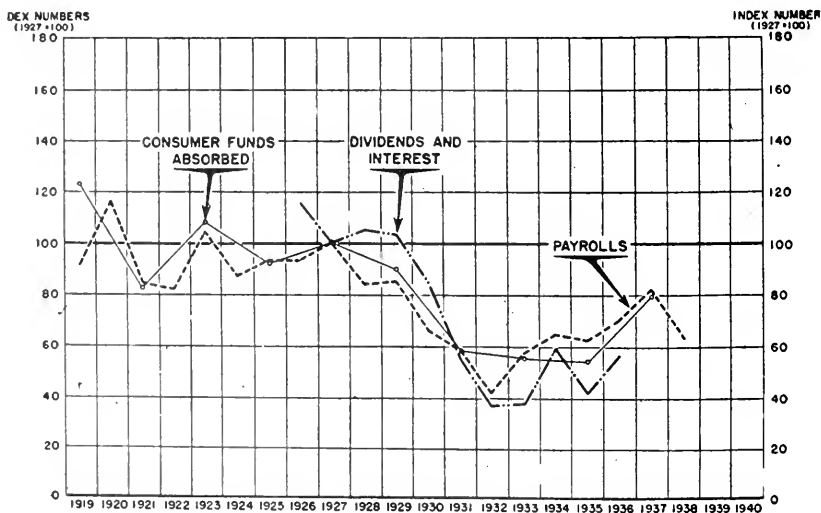
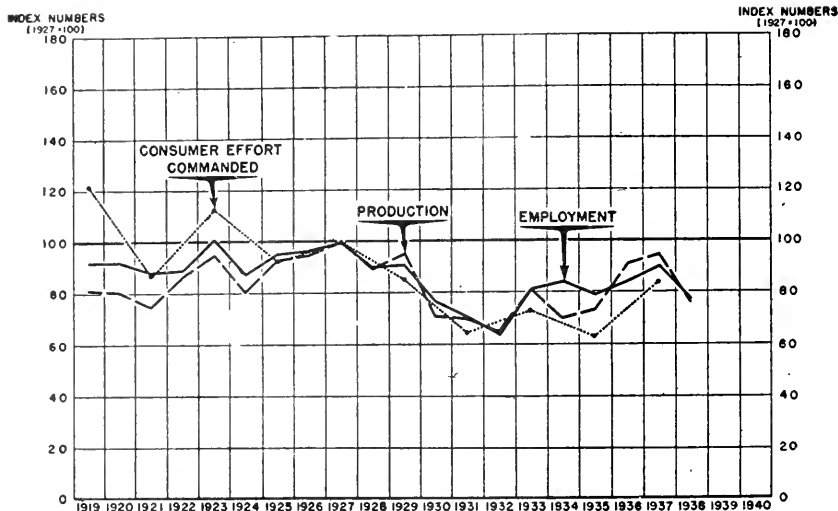


CHART 9
**SOCIAL PERFORMANCE OF THE
 COTTON GOODS INDUSTRY**
 UNITED STATES, 1919-1938



WOOLEN AND WORSTED GOODS INDUSTRY

The story for the woolen and worsted goods section of the textile industry is different only in minor details. In this industry employment has kept even with production (see chart 10) though failing by 25 percent even in 1937 to reach the levels of 1923. Production similarly, while exceeding in 1935, 1936, and 1937 that of 1929 by as much as 15 percent, has never reached the level of 1923. The reduction in consumer effort commanded has on the whole been about equal to that in production—in short, prices have stayed relatively in line with prices in general.

Pay roll disbursements similarly kept pace almost exactly with the size of the income stream which the woolen and worsted goods industry obtained from the public. There has been marked instability despite the fact that this is also a consumer goods industry. Pay rolls in 1923, for example, were 128.8 percent of 1927 levels; in 1932, 45.9 percent. This instability is likewise reflected in the dividends and interest figures which in 1932 reached a level only 22.6 percent of that existing in 1927. This industry has likewise not yielded adequate or stable revenue to its proprietorship account.

CHEMICAL INDUSTRY

Among the industries that have shown rapid growth since 1927, the chemical industry is outstanding. It is an industry (see chart 11) in which production in 1936 was 63 percent greater than in 1927 and more than 20 percent larger than it was in 1929 and higher now (August 1940) than at any previous period in American history. Employment figures in 1937 were also higher than in 1927 by more than 50 percent. Growth has been fairly steady, not because of any substantial decrease in prices but because modern productive processes tend to become increasingly chemical in nature. This has sometimes been called the chemical phase of the industrial revolution.²

Since the World War the industry has been making a higher type of product in the United States with the result that the increase in consumer dollars absorbed has been fully as rapid as the increase in physical volume of production. The lag in pay rolls as well as employment is indicative of the increased mechanization and the introduction of automatic processes. Nonetheless, pay rolls in 1937 exceeded 1929 levels by 20 percent. Suffice it to say that if every industry in the economy had behaved as the chemical industry, there would be a higher volume of production per capita today than at any previous period in American history. There would be no unemployment.

ELECTRIC LIGHT AND POWER INDUSTRY

Of more than usual interest are the results obtained in the electric light and power industry. (See chart 12.) It is the first of the industries so far mentioned in which an extensive amount of governmental regulation exists. It is likewise an industry that has undergone rapid technological changes. Above all, it is the industry in which there

² See among others, T. J. Kreps, *Chemical Phase of the Industrial Revolution*, in T. N. Carver, *Economics Sociology and the Modern World* (Harvard University Press, 1935).

CHART 10.
**SOCIAL PERFORMANCE OF THE WOOLEN
 AND WORSTED GOODS INDUSTRY**
 UNITED STATES, 1919-1938

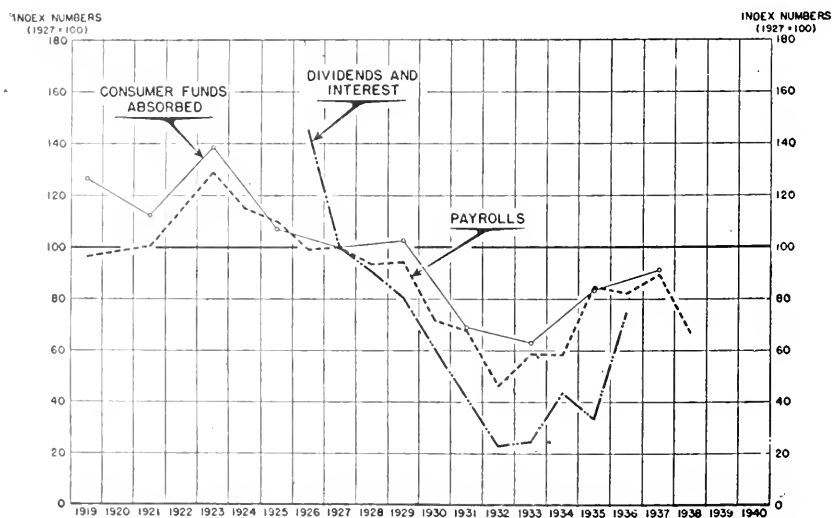
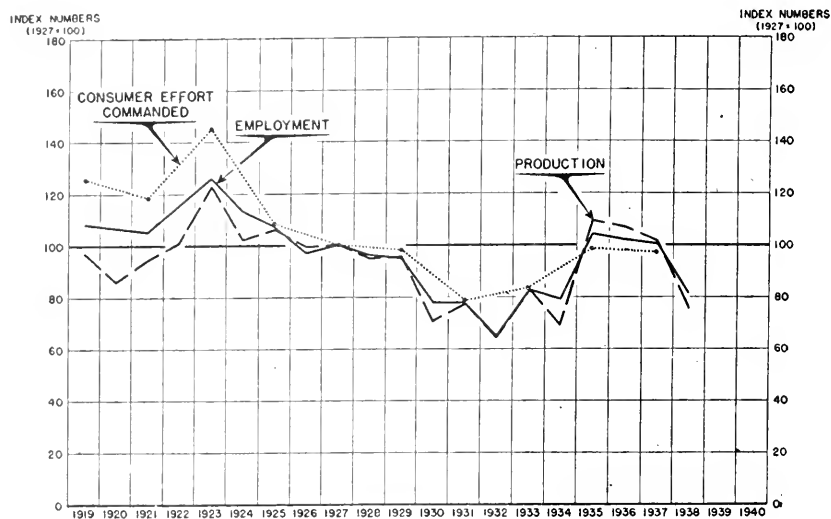
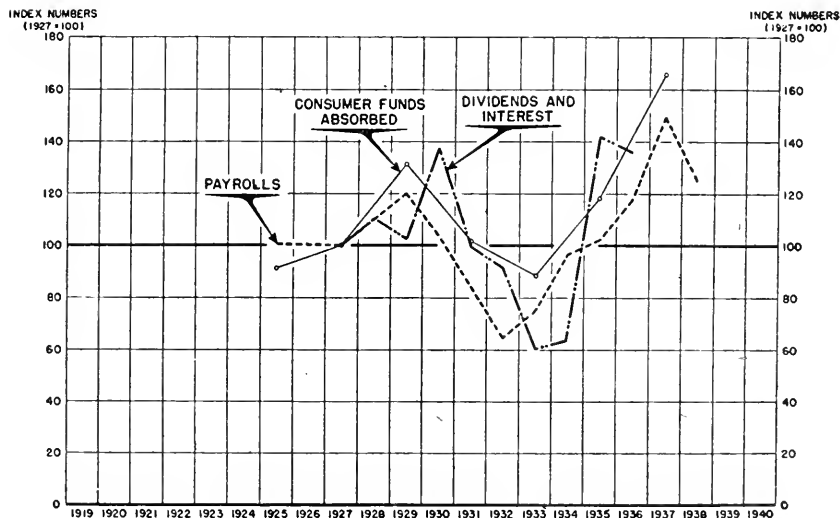
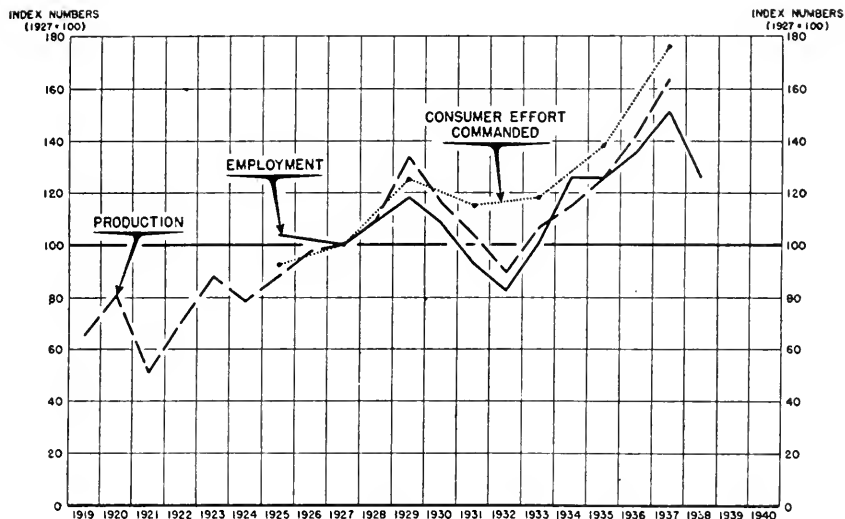


CHART II.
**SOCIAL PERFORMANCE OF THE
 CHEMICAL INDUSTRY**
 UNITED STATES, 1919-1938



have been large volume of securities issues, especially by holding companies, a great deal of political agitation, culminating in the Public Utility Holding Company Act and the Tennessee Valley Authority. The figures on which chart 12 is based measure to no small extent the social performance of governmental regulation as well as private enterprise.

If indeed this be true, note that production in the electric light and power industry in 1937 was more than double that in the period from 1923-25 and nearly 30 percent higher than that in 1929. In other words, despite all the so-called discouragements to production alleged to arise from the "death sentence" and other regulations in the utility industry, production was so large that had every industry in the economy behaved as well as the electric light and power industry 1929 levels of production would have been exceeded in 1937 by 30 percent.

But there still would have been an unemployment problem. Notice that employment in 1937 was slightly below total employment in 1929. In short, due to policies of rationalization and mechanization the industry has been able to produce more current with less labor. Labor costs have gone down. A substantial portion of such economies, however, have been passed on to consumers. In 1937 the amount of consumer effort commanded was 10 percent below that of 1929 and more than 20 percent below that in 1931, although the amount of service rendered was nearly 30 percent greater.

Turning to the dollar figures, note that in 1938 the quantity of consumer dollars absorbed is 25 percent below that of 1930. Payrolls are almost exactly equal while dividends and interest have declined about 20 percent. The industry has thus been spurred on to further production and to maintenance of pay rolls despite lower receipts from the public and lower payments since 1930 in dividends and interest. It is quite obvious that this industry has more than made its full contribution to recovery, at least so far as production, prices, and consumption are concerned.

IRON AND STEEL INDUSTRY

Among the most unstable of unstable industries has been the iron and steel industry. In comparison with the production and employment record of other industries, the iron and steel industry (see chart 13) shows marked fluctuation, production decreasing from a level of 126.6 in 1929 to 33.5 in 1932, recovering to a level of 121 in 1937. The record for employment does not fluctuate quite so widely as this, going down in 1932 to 60 percent of 1927 levels. In 1937, 20 percent more people were employed in the steel industry than at any other time in recent industrial history. This, of course, was primarily due to the reduction in hours. With this increase in employment there has occurred a certain trend toward increasing the amount of consumer effort commanded. The abrupt price rise in steel products in 1937 shows up in the fact that the index of consumer effort commanded is 42 percent above 1927 levels while production is only 21 percent higher.

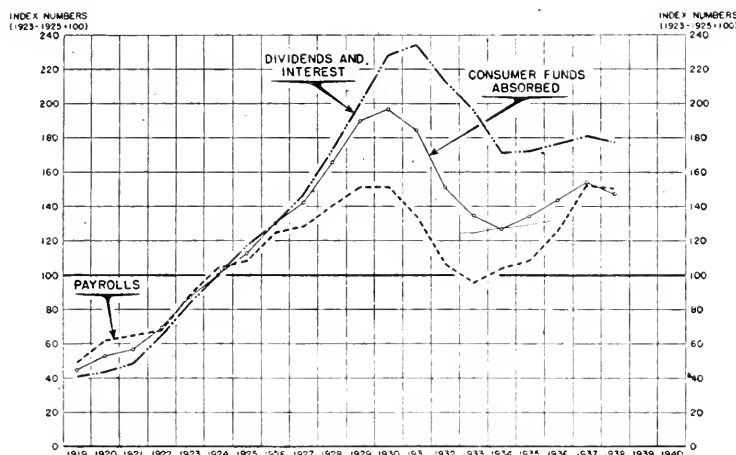
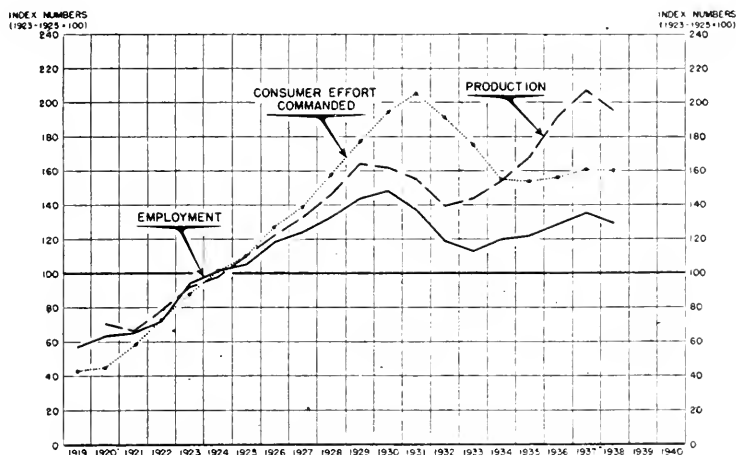
Turning to the dollar figures, note that the percentage of consumer dollars absorbed which have been paid out in pay rolls has remained relatively constant though tending in recent years to lag. A substantial decline has taken place in dividends and interest. From the

record level of 122.6 in 1929 dividends and interest fell to 21.4 in 1933 recovering to 98.6 in 1935. But the industry has been unable to maintain dividends and interest even though it has collected a some-

CHART 12.

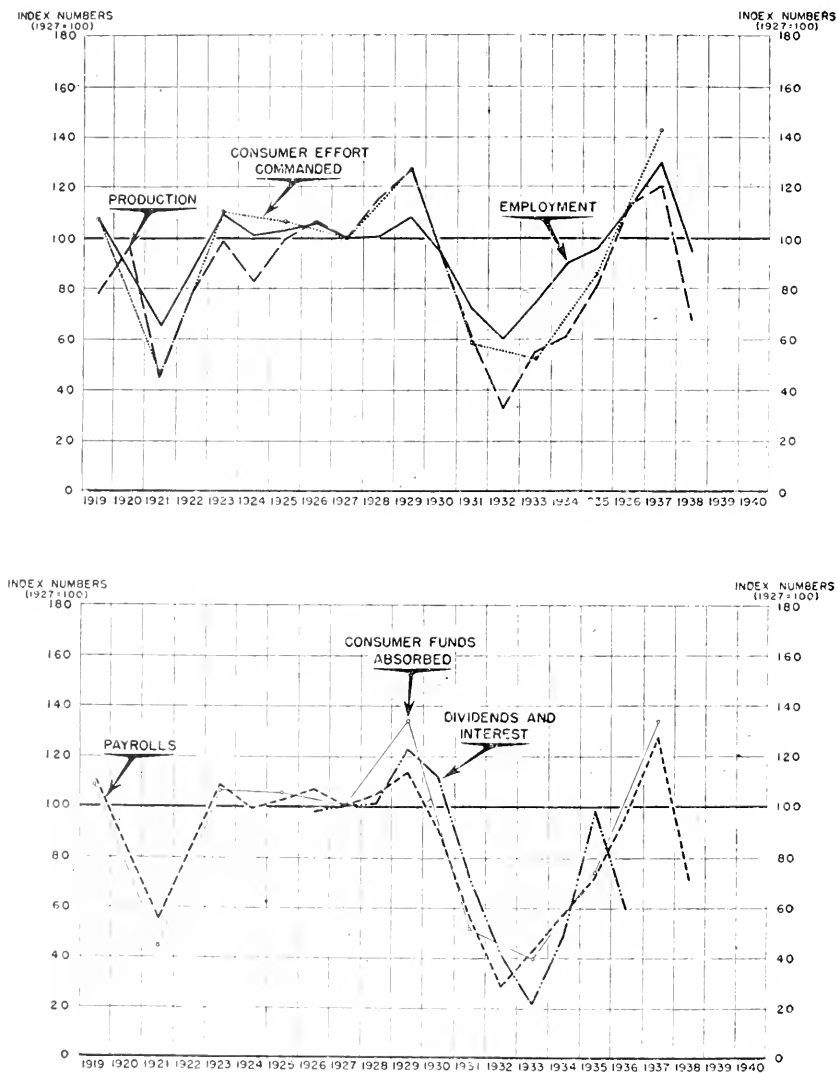
SOCIAL PERFORMANCE OF ELECTRIC LIGHT AND POWER

UNITED STATES, 1919-1938



what larger number of dollars from consumers for a given unit of product and paid out somewhat less of it in pay rolls. The outstanding fact exhibited by chart 13, of course, is instability.

CHART 13.
**SOCIAL PERFORMANCE OF THE IRON AND
 STEEL INDUSTRY**
 UNITED STATES, 1919-1938



PAPER AND PULP INDUSTRY

In the paper and pulp industry (chart 14) the outstanding feature is the rapid increase in production without equivalent increase in employment since 1934. In 1938 the industry produced in excess of 20 percent over 1934 levels with employment remaining roughly the same. The industry has likewise not sold its product at cheaper prices. The index of consumer effort commanded has risen fully as much as production.

In the dollar figures the notable feature is that of instability. The position of pay rolls, while above that of consumer funds absorbed in the early twenties has since 1928 been consistently lower. It is interesting that in 1936 dividends and interest exceeded any figure in the twenties except that of 1928. In terms of pay rolls and in terms of dollars collected from the public, dividends and interest have held up remarkably well.

FLOUR AND OTHER GRAIN MILL PRODUCTS

In the flour and grain-milling industry (see chart 15) all trends have declined steadily from 1919 to the present day. While a cyclical low was experienced in 1932, employment and pay rolls can in reality be said to exhibit a downward tendency throughout. Production held up moderately well in the twenties remaining on a plateau of about 101 at the same time that employment decreased from 136.1 in 1920 to 90.2 in 1929. In the thirties the decline in production continued with some slight decline also in employment. In terms of consumer effort commanded the industry shows no record of greater service rendered, despite the magnitude of the fall that is known to have occurred in the wholesale prices of grain. One would expect a priori that this industry would have given consumers steadily more for their money. Instead, as the figures show, the industry did not permit its product to decline in prices faster than the declines that occurred in wages and in prices in general. Flour prices, in short, stayed up relative to grain prices.

Further light is cast on this phenomenon in the dollar figures which show that pay rolls have, if anything, declined faster than employment and on the whole faster than the number of dollars which the industry absorbed from the public. Not so the dividends and interest payments. Notice that from 1927 to 1929 although production remained the same, employment went down 10 percent and pay rolls were off nearly 7 percent. Dividends and interest increased 20 percent and nearly 9 percent more was taken from consumers.

Similarly in 1935, dividends and interest had declined less than 7 percent from the 1927 level while production had gone down more than one-sixth and pay rolls more than one-fourth. The industry, in short, seems to have done its best to pay out dividends and interest. A priori one would expect that the consumption and production of flour would be the one to hold up best in hard times. It would seem to be the kind of article that people would have to buy. Interestingly enough it declined nearly 20 percent during the depression.

CHART 14
SOCIAL PERFORMANCE OF THE
PAPER AND PULP INDUSTRY
UNITED STATES, 1919-1938

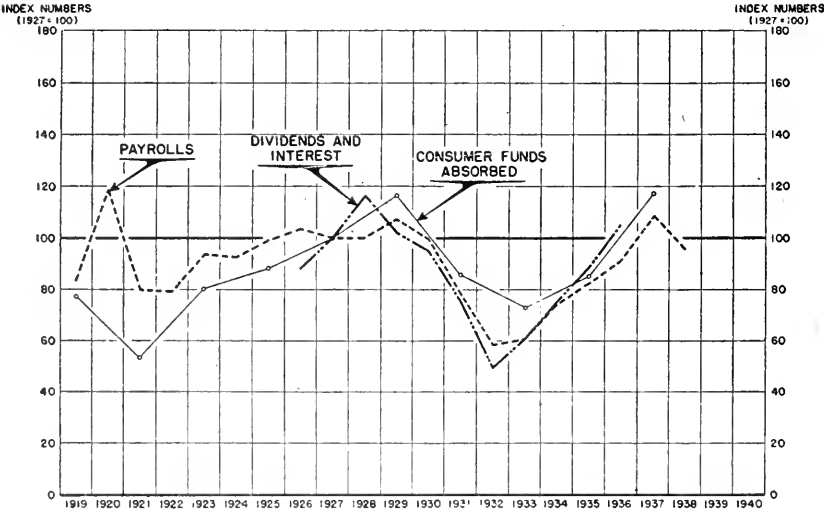
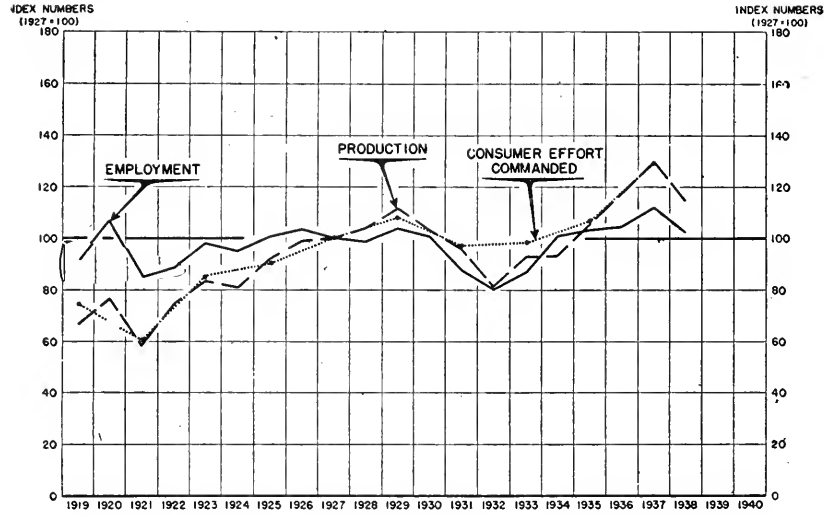
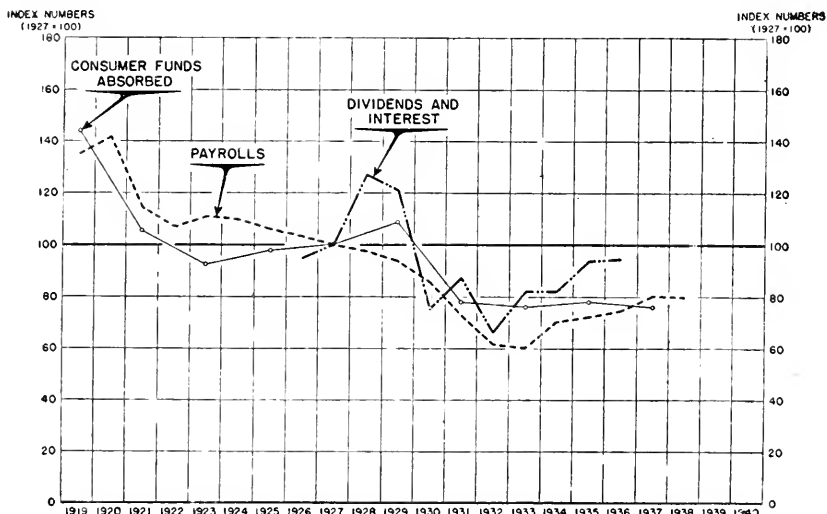
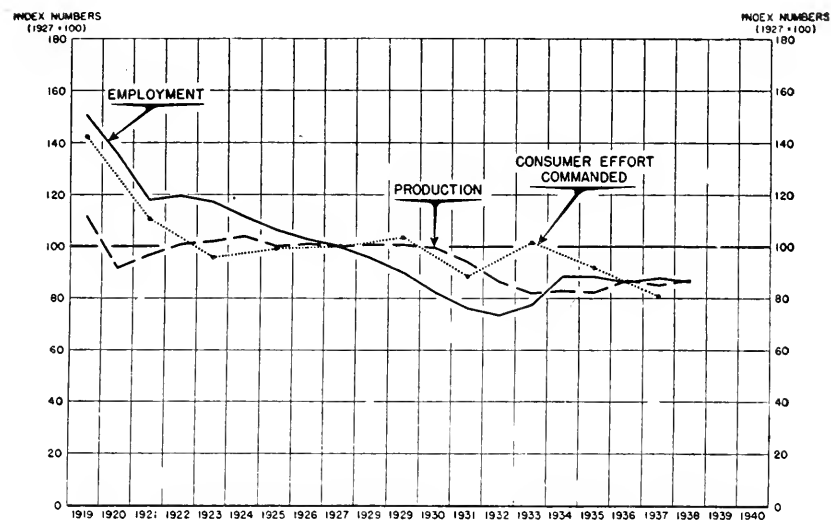


CHART 15.
**SOCIAL PERFORMANCE OF FLOUR AND
 OTHER GRAIN MILL PRODUCTS**
 UNITED STATES, 1919-1938



OIL AND GAS PRODUCING INDUSTRY

The oil and gas producing industry is one in which production has reached levels in recent years (see chart 16) from 30 to 40 percent in excess of those in 1927. Yet so great has been the increase in productivity that employment in 1938 was 7 percent less than it was in 1927 while pay rolls were nearly 19 percent less. In this industry the figures on "value added by manufacture" or "income produced" are not available so that no measure can be given on the net amount of consumer dollars absorbed by the industry available for its disbursement. But the end product here is a raw material. Value of products is nearly the same as value added by manufacture except for taxes and outlays for power.

One other qualification needs to be borne in mind. The industry has been making considerable investment in automatic equipment and the like, supplanting some of the labor that was formerly employed. Thus the ratio of value added by manufacture to total value may have decreased throughout the period. To compute indexes in terms of "value of products" may overstate somewhat the net levy on the pocketbooks of consumers made by the industry at least in recent years. Yet in 1937 the industry gave 44 percent additional product for only 26 percent additional money.

In terms of dollars of constant purchasing power, however, the levy upon the consumer pocketbook was no smaller inasmuch as prices have gone down by more than 15 percent from 1927 levels. While collecting a larger sum of money from the public, the industry disbursed in 1937 one-sixth less money to laborers in the form of pay rolls than it did in 1927. Figures on dividends and interest must be interpreted with caution because the Bureau of Internal Revenue changed its industrial classification completely in 1934. Such as they are, they show a steep decline beginning in 1926 and continuing until 1931. The improvement in 1934 and thereafter brought dividends and interest considerably above pay rolls but not above consumer funds absorbed.

In sum, the industry has done an excellent job of production. It has not helped to solve the problem of employment.

FURNITURE INDUSTRY

Statistics for the construction industry are notoriously inadequate. In many cases even more inadequate are the figures for industries that make articles essentially accessories in the home, for example, furnishings, kitchen utensils, drapes, and rugs. None the less, an appreciable portion of the consumer's dollar is spent for that congeries of articles called home furnishings.

While the figures given in chart 17, applying to the furniture industry, do not have the accuracy which characterizes the figures for other industries, they do show the main trends. The industry has been one of the most backward in the recovery procession. Production in 1937 recovered to only 80 percent of 1927 levels, and employment to only 90 percent. Moreover, consumer effort commanded has remained constant relative to production.

CHART 16
**SOCIAL PERFORMANCE OF THE OIL AND GAS
 PRODUCING INDUSTRY**
 UNITED STATES, 1919-1938

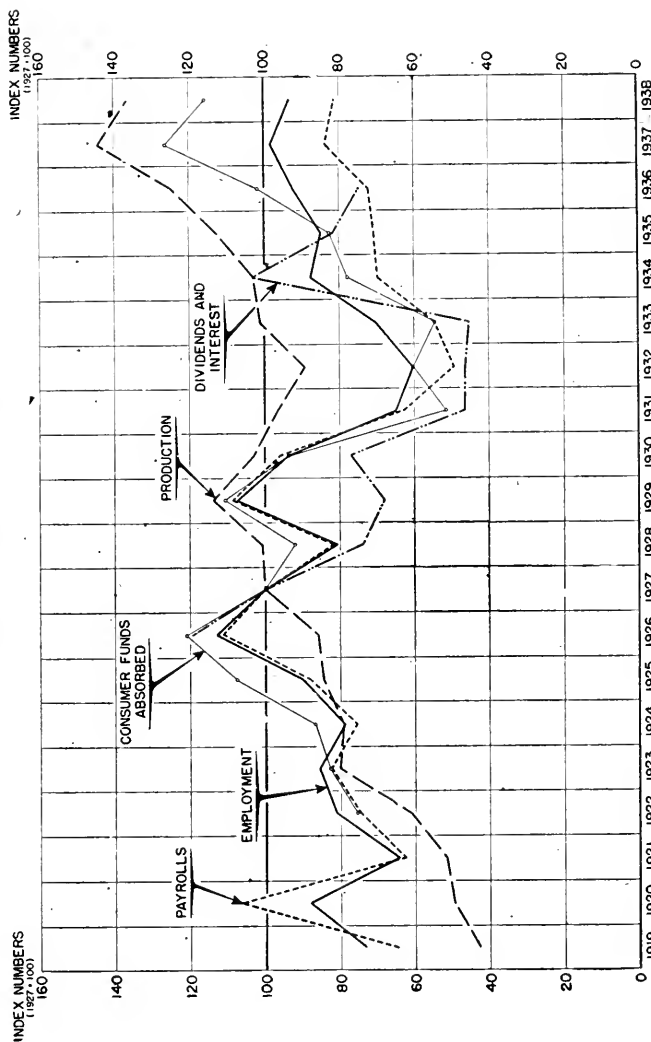
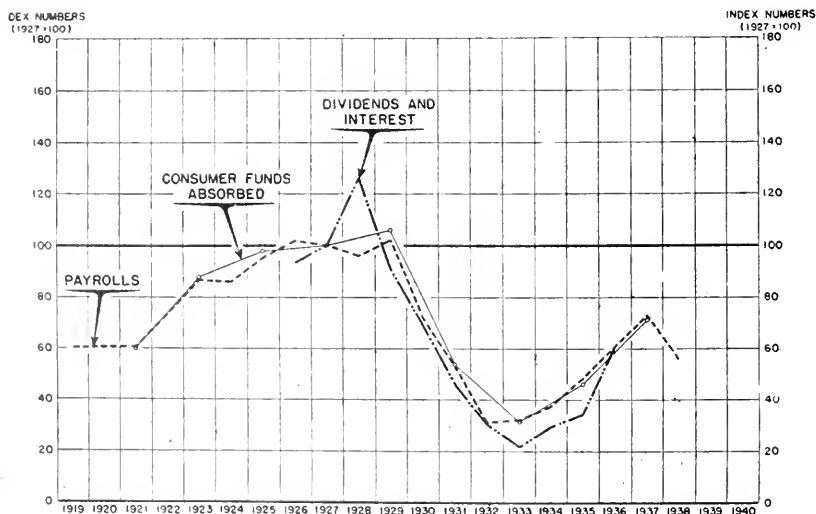
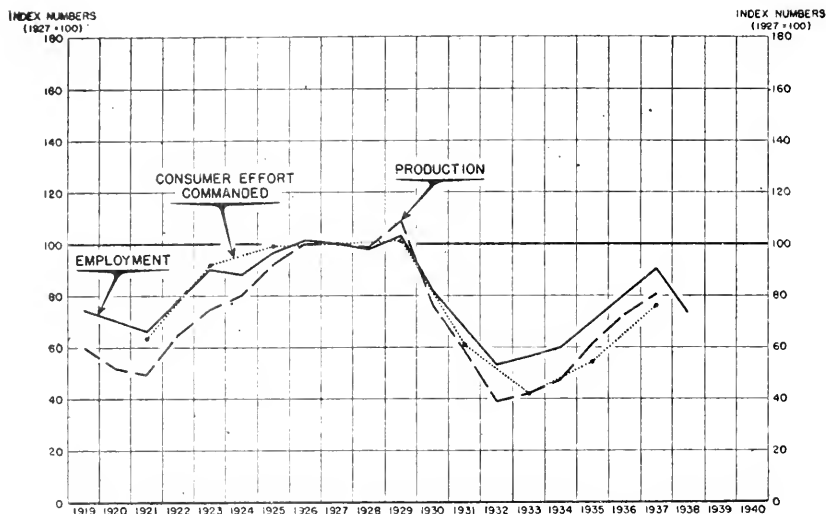


CHART 17.
**SOCIAL PERFORMANCE OF THE
 FURNITURE INDUSTRY**
 , UNITED STATES, 1919-1938



As might be expected, pay roll experience has likewise been disappointing, the industry in 1933 disbursing only 55 cents for every dollar that it disbursed in 1927. But its collections had gone down about the same percentage, and so also dividends and interest which have at no time been out of line except for the year 1928. In short, the chart provides a graphic outline of depression.

METAL MINING INDUSTRY

The striking features of chart 18 are, first, the extraordinary depth of the depression in the metal mining industry and, second, the remarkable degree to which the various series fluctuate together. Note that employment and pay rolls in the industry in declining from their post-World War peak at no time regained the levels of 1919 and 1920. In 1932 and 1933 they were less than one-fourth of what they had been in 1919, a so-called depression year. Production shows similar fluctuations; value of products tends to fluctuate above and below production which indicates that the prices of minerals swing in wide amplitude. One further fact is outstanding—the enormous jump of dividends and interest in 1929, together with an utter collapse in 1932 to levels less than one-tenth of that in 1929.

TOBACCO INDUSTRY

The behavior of the tobacco industry is particularly noteworthy inasmuch as it is an industry whose product in all countries is subject to a high degree of taxation. As is well known, the tobacco industry comprises in addition to cigarette manufacture the manufacture of cigars, chewing and smoking tobacco, and snuff. It has been an industry characterized by enormous technological change. Despite the high excise tax, production in 1937 (see chart 19) was one-third greater than in 1927. But the number of persons employed had gone down by more than one-fourth and pay rolls by one-third. A striking decrease has taken place in the exchange value of tobacco. Thus in 1937 total consumer effort commanded by a product more than one-third larger was some 5 percent below that in 1927. Turning to the dollar figures notice that the record of dividends and interest has been particularly satisfactory to stockholders. At a time when pay rolls were 40 percent below 1927 levels, dividends and interest in 1936 were 56 percent higher. In sum, the industry has fired its men, decreased its pay rolls, and divided the benefits of technology between consumers and owners. Even in 1932 dividends and interest were larger than in 1929. In that year, in fact, the net profits of the four largest companies exceeded the total amount received by all farmers for their whole year of work in producing all the tobacco processed by all the companies.³ This industry employs less than half the men that it employed in 1919 and pays out less than one-half the pay rolls that it paid out in 1920. But dividends have been "satisfactory."

³ See complaint filed by the Department of Justice in the District Court for the Eastern District of Kentucky, July 24, 1940.

CHART 18.
SOCIAL PERFORMANCE OF THE METAL MINING INDUSTRY
 UNITED STATES, 1919-1938

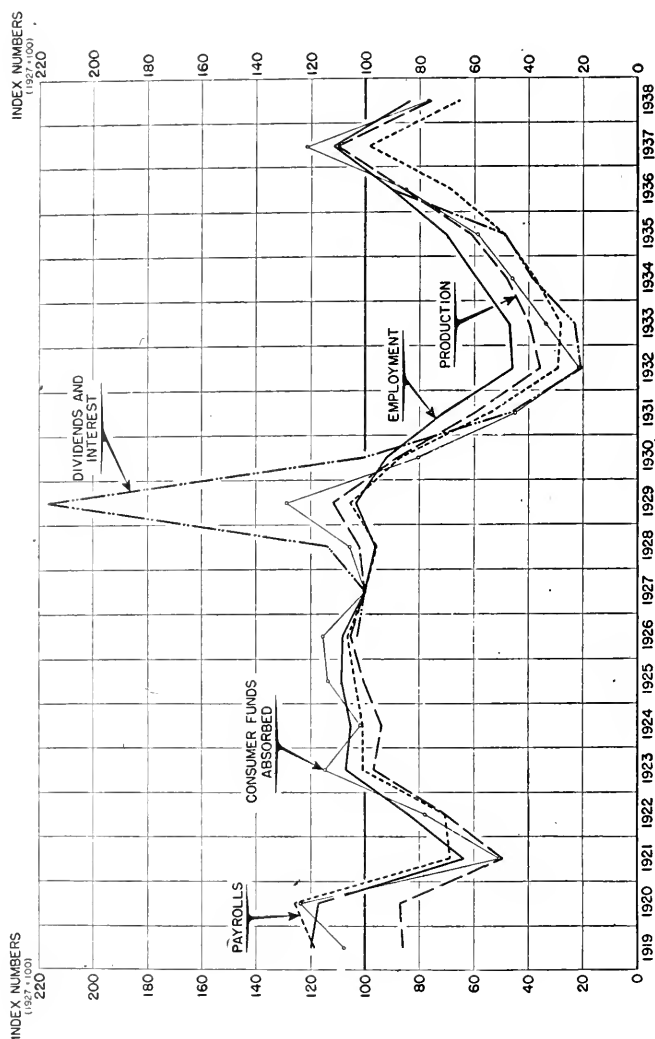
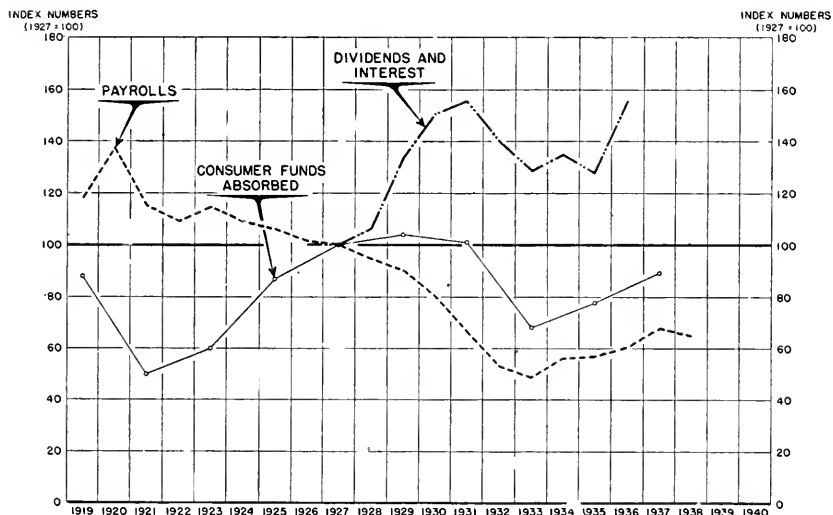
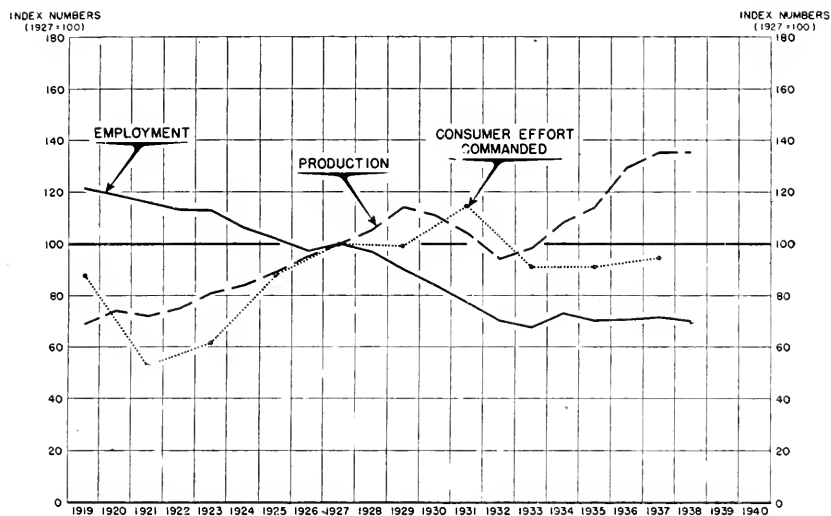


CHART 19.
**SOCIAL PLRFORMANCE OF THE
 TOBACCO INDUSTRY**
 UNITED STATES, 1919-1938



COAL MINING INDUSTRY

In chart 20 is shown the graph of a sick industry. The downward trend in all of the figures is pronounced, being about the same whether one compares 1920 and 1929, or 1929 and 1937. Employment held up relatively better, being about three-fourths of the 1927 figures, but pay rolls were down to less than half of their total in 1927 and less than two-fifths of the amount in 1923. The data on "value added by manufacture" are not available but as in other raw material and mining industries, the figures for value of products afford an acceptably close approximation of "consumer funds absorbed." Note that value of products in 1938 was just half of what it was in 1926 and less than one-third of what it was in 1920. The stockholders have likewise suffered.

When the fact is remembered that total energy consumption in 1937 exceeded that in 1929 by nearly one-third,⁴ the fact is clear that no moderate amount of recovery is going to restore full employment in the coal mining industry. Competition of oil and water power, together with increasing spread of mechanization of coal mining, is likely to bring on the economy an appreciable problem of reemployment, particularly when it is recalled that there were in this industry in 1927 a total of 675,000 coal miners getting paid more than \$1,000,000,000 a year.

This industry, moreover, is a good example of the type of industry which while failing to meet social performance tests cannot be said thereby to be at bottom responsible for its plight. It is a major casualty of economic change. It seems hard to believe that any change in industrial policies peculiar to coal could substantially have altered the pattern here presented. Notice that even the extraordinary prosperity of 1929 did not enable the industry to recover to the so-called minor depression level of 1927. In short, in this industry the problem of idle men, idle money, insufficient purchasing power, and lack of profits is spelled out in capital letters.

LUMBER AND TIMBER PRODUCTS INDUSTRY

The story for the lumber and timber products industry varies only in detail from that of the coal industry with the single exception that a larger impact of cyclical forces is added to that of declining secular trend. In terms of production, note that the industry reached its all-time high in 1925. In 1932 the index of production of lumber and timber products only (not shown on the chart but given in table XXI, appendix B) was 29 percent of what it had been in 1927. Fluctuations in employment, while not quite so great, show the impact of the same forces, reaching an all-time high in 1923. Even the prosperity of 1929 did not enable the industry to employ 85,000 men who had employment in 1923. In the 1930's while there has been a substantial amount of recovery so that in 1937 production was nearly double that in 1933, nonetheless in terms of the boom year 1923, more than 200,000 men were out of work who had formerly been attached to the industry.

⁴ See Hearings before the Temporary National Economic Committee, Part 30, Exhibit 2744.

CHART 20
SOCIAL PERFORMANCE OF THE COAL MINING INDUSTRY
 UNITED STATES, 1919-1938

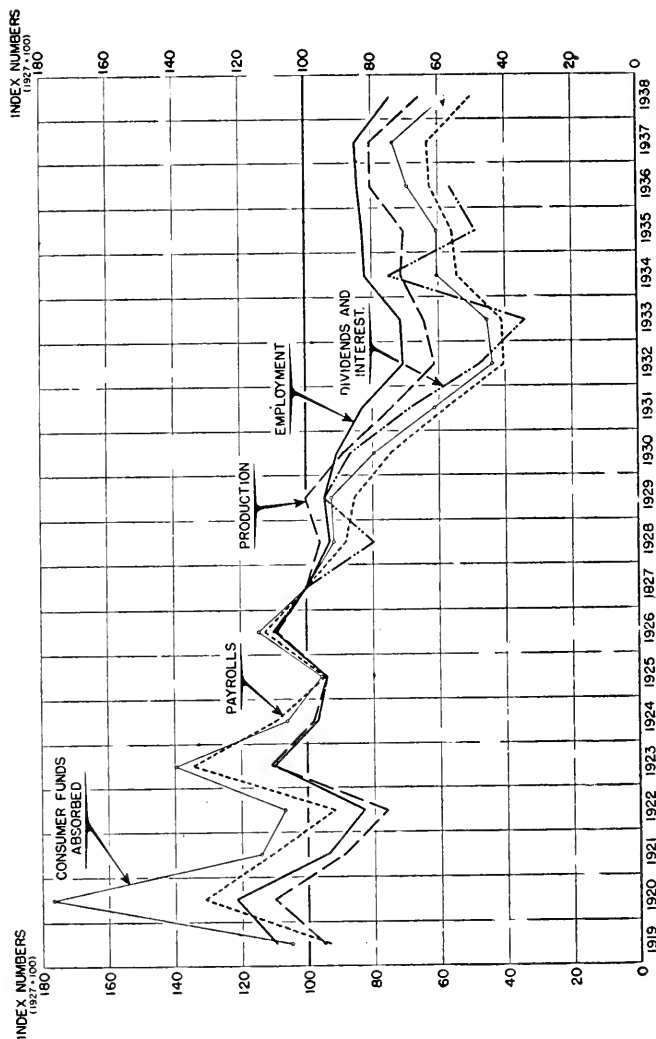
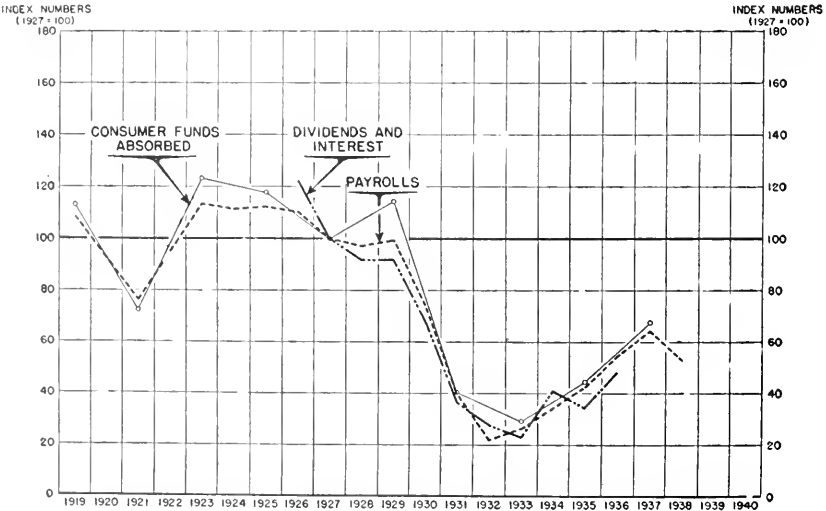
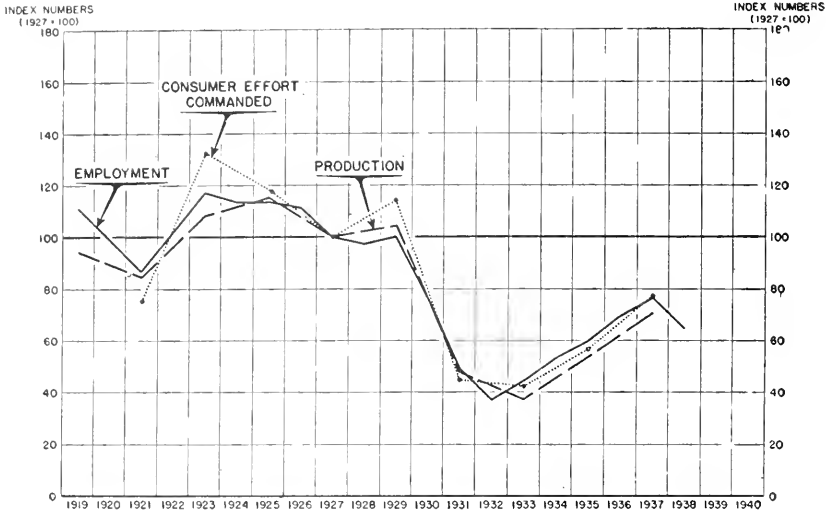


CHART 21
SOCIAL PERFORMANCE OF LUMBER
AND TIMBER PRODUCTS
UNITED STATES, 1919-1938



Notice that the industry has constantly been one in which the exchange value of the product has been equal to or higher than the index of production. In other words, on the whole, the consumer effort commanded per unit of product has remained high despite the low levels of production. The industry, in short, has not sought to attract consumer buying by offering greater value.⁵

A glance at the dollar figures shows similar instability and decline. At no time did the public pay out more dollars than in 1923, the level in 1937 being only slightly more than half that in 1923. At no time did the industry pay out more in pay rolls than in 1923. In 1932 it paid out less than one-fifth and in 1938 less than one-half of the funds to laborers which it disbursed in 1923. But it has also not paid out funds to its proprietorship account. Dividends and interest have at no time been seriously out of line either with pay rolls or with consumer dollars absorbed.

STEAM RAILROAD INDUSTRY

Last in the sample of industries which are here examined and to which social performance tests have been applied are the steam railroads. This industry in 1927 employed more than 1,500,000 men. Yet employment and pay rolls have been steadily declining since 1920. Several divergent trends are to be noted. In the first place, throughout the period there has been an increasing tendency for employment and pay rolls to lag behind production, particularly in recent years. This, as is well known, has been due to a whole series of technological improvements, no one of which might be called truly revolutionary in character but with a cumulative character that is epoch making.

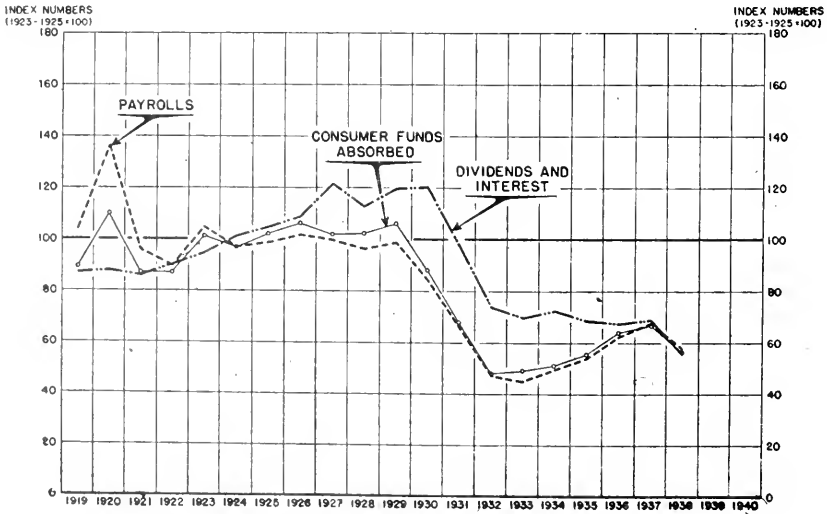
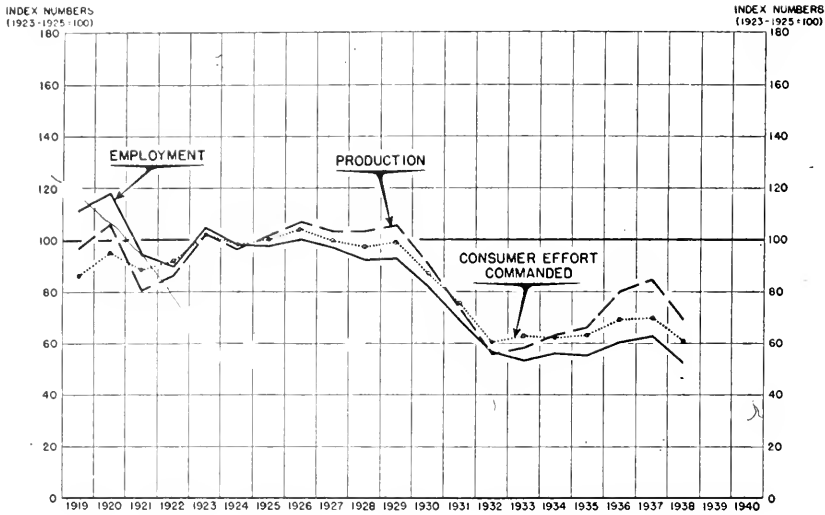
In 1937 the volume of traffic was about 85 percent of what it had been in the period from 1923 to 1925 but employment had gone down by more than one-third. Moreover, the industry has been steadily decreasing its rates so that the exchange value of railway services has on the whole fallen more rapidly than production. Pay rolls have also suffered, though for the most part they have kept pace with the volume of consumer dollars paid out for railway services.

Outstanding is the rapid increase in dividends and interest from 1919 to 1927 at a time when pay rolls were declining and production was barely holding even. Also outstanding is the fact that in the years 1930 and 1931 dividends and interest tended to maintain themselves at a high level. Only in the last year or so have they come down in line with pay rolls. In sum, from a position in 1919 substantially below pay rolls, dividends and interest began to diverge in 1924 and have been maintained by wide margins above the level of pay rolls until 1938.

Extraordinary efforts have been made by railway managements to continue making interest payments. Too small a percentage of the dollars which they collected from the public were made available for the improvements and betterments necessary to maintain competitive position. In short, instead of writing obsolete capital off the books—capital made obsolete, it should be said, by the development of newer methods of transportation, the industry has written employment and pay rolls off the books but handicapped itself in its competitive struggle by heavy fixed charges.

⁵ Prices of lumber were higher in 1937 than in 1929. See *Investigation of Concentration of Economic Power, Part II, Construction Industry*, hearings before the T. N. E. C., p. 5232 ff.

CHART 22.
SOCIAL PERFORMANCE OF
STEAM RAILROADS
UNITED STATES, 1919-1938



This industry, it should be noted, is one in which government regulation has existed for a long time. It is one, moreover, in which government regulation has found greatest acceptance. In essence it is a public utility, with problems not substantially different in character from those of electric light and power industry also under government regulation. But in this industry there has been a relatively small volume of protests and yet the performance of the industry has been so poor that were the performance in the rest of the economy no better, the total number of unemployed in the United States today would come to something like 25,000,000 instead of less than 10,000,000.

On the other hand, actual performance here so well meets the tests of consumption and production that had all industry performed as fully as the electric light and power industry, per capita production and enjoyment today would be some 10 percent larger than in any previous year in our industrial history. Protest against governmental regulation does not seem to correlate highly with actual damage to the economy.

COMPOSITE RANKING

The order in which the industries have been cited above was not a haphazard one. It is exactly that shown in table 1, derived from computations of the ranking of the various industries in terms of their social performance. Seven tests or criteria have been used.

The first is that of production. Industries which increased their production over the base year are regarded as industries that have rendered increasing services to the public while industries that have decreased their production are regarded as industries that have not increased their services to the public. Production in all cases is measured in terms of physical volume. Moreover, it should be remembered that, as was specifically noted above in the case of coal mining, the industry in many instances may have been subject to forces clearly beyond its control.⁶ It is possible that no conceivable alteration of its policies would have sufficed to change its performance so far as production is concerned. That none the less does not alter the social fact. Whether a baby is pushed out of a second-story window or jumps out is not likely to make the impact of the fall any different. Similarly the impact upon the economy of the failure of an industry to increase the output of an article which consumers need is in the usual instance detrimental no matter who is responsible. Table 1 is not a matter of moral judgment in any sense whatsoever. It shows the facts. Questions of motive or responsibility are completely irrelevant. In table 1 there is represented a purely objective measurement of the impact upon the economy of the things that happened over a period of time to individual industries. Industries with rising trends show better results than those in which trends are downward.

⁶ Editor's footnote: "The main question which I raise is the suitability of assigning responsibility or credit to specific industries, major industrial categories, or single companies for their economic performance. Not enough discussion and emphasis are given to the fact that no attempt is made here to blame or congratulate an industry for a bad or good record irrespective of external factors. For instance, I know no one would criticize the carriage industry in the early part of this century, or the bicycle industry during the period when automobile usage was expanding rapidly. Also, blacksmiths and livery stables showed a bad record over many years because of a trend which obviously they could not by themselves reverse or adjust themselves to. Of course this is not true of all industries and many which have poor records can well be "blamed."

On the other hand, there are many companies or industries with good records which, almost of necessity, show favorable results. For instance, the automobile industry was bound to develop with any kind of advantage taken of technical developments. Whether Ford, Chrysler, or Kettering were predominantly responsible for this success or whether the nature of individual demand was the important factor is not necessarily relevant. The important fact to take note of is the interference of external factors in the progress of particular companies or industries."—ROBERT NATHAN.

TABLE 1.—Summary of performance ratings of 22 industries¹

INDIVIDUAL RATING: SEVEN CRITERIA, 1927-38

Industry	Production ²		Employment ³		Pay rolls ⁴		Ratio of employment to production ⁵		Ratio of production to consumer effort commanded ⁶		Ratio of pay rolls to consumer funds absorbed ⁷		Ratio of pay rolls to dividends and interest ⁸	
	Increase	Rank	Increase	Rank	Increase	Rank	Increase	Rank	Increase	Rank	Increase	Rank	Increase	Rank
Baking and confectionery	-0.10	13	+2.82	3	+0.43	5	+2.92	1	+1.02	9	+2.48	3	+2.11	7
Knit goods	+2.82	6	+1.51	5	-0.31	7	-1.07	16	+4.10	1	+2.22	4	+4.94	2
Canning and preserving	+3.83	2	+4.96	1	+1.40	2, 3	+1.13	5	+1.64	7	+1.20	5	-2.56	20
Agricultural implements	+0.59	11	+1.57	4	+1.40	2, 3	+0.98	6	-0.07	15	+3.67	1	-0.29	13
Petroleum refining	+3.32	5	+1.10	6	+0.98	4	-2.22	19	+1.47	8	+0.53	11	+6.98	1
Automobile	-0.49	14	-0.32	13	-1.14	11	+0.17	18	+2.55	5	+2.78	2	+1.27	9
Boot and shoe	+1.80	8	+0.49	10	-1.82	14	-1.31	17	+3.08	4	+0.88	8	+2.62	6
Slaughtering and meat packing	+0.67	10	+0.69	9	+0.001	6	+0.02	10	-1.52	20	+0.86	9	+3.73	5
Cotton goods	-0.78	15	-0.72	16	-1.76	13	+0.06	9	+0.78	11	+0.89	7	+4.09	4
Woolen and worsted goods	+0.17	12	+0.10	11	-1.57	12	-0.07	11	+0.85	10	+0.17	16	+4.14	3
Chemical	+4.11	1	+3.83	2	+2.09	1	-0.28	12	-1.82	22	-1.36	20	-1.37	17
Electric light and power	+3.82	3	-0.61	15	-0.38	8	-4.43	21	+3.90	2	+1.03	6	-4.30	21
Iron and steel	+1.51	16	+1.08	7	-1.09	10	+2.59	2	-1.70	21	+0.24	14, 15	+1.09	11
Paper and pulp	+1.58	9	+0.72	8	-0.64	9	-0.86	13	-0.26	17	-0.39	16	-1.19	16
Flour and other grain-mill products	-1.76	17	-0.60	14	-2.07	16	+1.16	4	-0.30	18	+0.57	10	-1.58	18
Oil and gas producing	+3.34	4	-0.14	12	-2.02	15	-3.48	20	+2.50	17	-3.61	22	-1.97	19
Furniture	-3.80	22	-2.13	19	+0.06	20	+1.67	3	+0.25	14	+0.36	12	+1.17	10
Metal mining	-1.93	18	-1.00	17	-3.00	17	-0.93	14	+0.13	16	-1.27	19	+1.77	8
Tobacco	+2.76	7	-2.74	20	-2.49	18	-3.50	22	+3.49	3	-1.63	21	-0.63	22
Coal mining	-2.69	19	-1.68	18	-2.69	19	-1.01	15	+0.67	13	-0.66	18	-0.04	14
Lumber and timber products	-3.75	21	-2.99	21	-4.62	22	+0.76	7	-0.32	19	+0.24	14, 15	+0.65	12
Railroads, steam	-2.95	20	-4.39	22	-4.21	21	-1.44	18	+0.76	12	+0.27	13	-0.98	15

Industry	Based on 3 criteria			Based on 7 criteria		
	Cumulative increment	Rating	Cumulative rank	Rating	Cumulative increment	Cumulative rank
Baking and confectionery	+3.15	6	21.0	6	+11.68	41.0
Knit goods	+4.02	4	18.0	6	+14.21	41.0
Canning and preserving	+10.19	1	5.5	2	+11.60	42.5
Agricultural implements	+3.56	5	17.5	4	+8.43	52.5
Petroleum refining	+5.40	3	15.0	3	+12.16	54.0
Automobile	-1.95	14	38.0	14	+4.82	62.0
Boot and shoe	+1.47	11	32.0	11	+5.74	67.0
Slaughtering and meat packing	+1.36	9	25.0	7	+4.45	69.0
Cotton goods	-3.26	16	44.0	15	+2.56	75.0
Woolen and worsted goods	-1.30	12	35.0	13	+3.79	75.0
Chemical	+10.03	2	4.0	1	+5.20	73.0
Electric light and power	+2.83	7	26.0	8,9	- .97	76.0
Iron and steel	-1.52	13	33.0	12	+ .70	81.5
Paper and pulp	+1.64	8	26.0	8,9	-1.04	89.0
Flour and other grain-mill products	-4.43	17	47.0	17	-4.38	97.0
Oil and gas producing	+1.18	10	31.0	10	- .04	98.0
Furniture	-9.99	20	61.0	20	-6.54	109.0
Metal mining	-5.93	18	52.0	18	- .49	109.0
Tobacco	-2.47	15	45.0	16	-15.74	113.0
Coal mining	-7.00	19	56.0	19	-8.10	116.0
Lumber and timber products	-11.36	21	64.0	22	-10.03	121.0
Railroads, steam	-11.55	22	63.0	21	-12.94	121.0

¹ For detailed explanation of technical methods of computing increments see appendix C.

² Ranked on the basis of average annual increment, 1927-38.

³ Industries ranked on basis of employment-production relationship; employment increment minus production increment, 1927-38.

⁴ Production increment minus increment for consumer effort commanded, 1927-37.

⁵ Pay-rolls increment minus increment for consumer funds absorbed, 1927-37.

⁶ Pay-rolls increment minus increment for dividends and interest, 1926-36.

Turning to the matter of production, the fact should be emphasized that each industry was compared not with other industries but with its own performance, taking some year such as 1927 or the years 1923-25 as a base. In each case there was measured the average annual increment in production on the assumption that those which showed the largest average annual increase in physical volume of production were the ones which rendered the largest amount of service to the public.

These annual increments having been computed, industries were ranked numerically. The industry, for example, showing the largest annual increase in production was chemicals and therefore it rates number 1. Canning and preserving was next, electric light and power was third, and so on, with furniture at the bottom of the list. Those at the bottom of the list in many cases showed actual decreases and furniture showed the largest annual decrease.

So far as employment is concerned, that industry which increased its employment the most throughout the period was regarded as an industry which had made the maximum social contribution. Again the fact should be emphasized that no moral or other responsibility is necessarily attached to the industry for its employment record. Irrespective of the good intentions of the industry, if it fails to increase its employment as rapidly as population increases, and particularly if it actually on balance throws men out of work, society will have such men on its hands unless they are absorbed by other industries. There will be an unemployment problem and ultimately the Government will have to take care of such men either on relief rolls, on Work Projects Administration, or otherwise.

The ranking of the various industries simply means that the average annual increase in employment in the canning and preserving industry was greater than that of any other industry here studied. Chemicals came next while steam railroads come at the bottom of the list. In 11 of the industries there have been actual decreases in employment, the steam railroads in recent years employing a million fewer persons than they did in 1920.

With respect to the third criterion, namely pay rolls, the assumption made is that those industries which increased pay rolls the most were industries conferring the largest benefit upon the public. The chief form of mass purchasing power is pay rolls. It is the pay rolls paid out by industry to labor which find their way almost immediately into the hands of retailers and other distributing groups and absorb the product of industry. Pay rolls constitute the mass market which is necessary in modern times for mass production to keep operating at full capacity.

The industries have been ranked again in terms of their own performance. The industry which has increased its pay rolls on the average each year more than the other industries here studied is the chemical industry, with the canning and preserving and agricultural-implement industries tied for second place. At the bottom of the list comes the lumber and timber products industry in which there has been actual decline in pay rolls greater per year on the average than in any other of the industries included among the 22 here listed.

The next four criteria are coefficients or ratios. In the first of these there has been computed for each industry the ratio of the

employment index to the production index, the assumption being that those industries in which employment had increased on a par with production are industries contributing more to social benefit than industries that increase production without increasing employment.

This is of course a debatable point. Perhaps business is not supposed to furnish opportunity to workers to utilize the abilities with which Nature endowed them. It may well be argued that increases in production obtained without the employment of additional labor, due for example to technological improvements, cause no greater problems to society than those which utilize additional labor.

It may well be that human beings are not the central and focal point in a democratic scheme of government. But a society which taxes itself to the extent of a billion dollars a year in order to educate the human abilities latent in its population, and furthermore a society which has made the possibility of sharing in the increased production of industry largely dependent upon securing jobs and receiving pay—is probably a society in which the industries that are most in harmony with its democratic, free-enterprise structure are those which in increasing production tend, *pari passu*, to give additional opportunity for human beings to get additional wages so that they may buy and consume the additional product.⁷

The industry which has increased employment most relative to production in recent years is the baking and confectionery industry. Whether its favorable rating now is due to the fact that hours worked in the twenties were higher than in other industries cannot be checked in detail, but seems to be in part the case. The industries at the bottom of the list may likewise be the industries in which technological advances were most striking, another fact impossible to establish, for how compare developments in one industry with those in another. But if such be the case, then the petroleum refining, oil and gas producing, electric light and power, and tobacco industries would seem to be the industries characterized by the greatest amount of technological advance among the 22 here shown.

The fifth criterion applied is one which compares total production with the consumer effort commanded by that production. It is assumed that on the whole society tends to be benefited whenever it gets more and more product for less and less effort. The consumer effort commanded series, it will be remembered, was obtained by taking the consumer dollars absorbed and relating them to the effort spent by consumers to get hold of those dollars. Technically the process was one of deflating the index of "dollars absorbed" by Snyder's index of the general price level, an index which, it should be remembered, includes rents, wages, and in fact all forms of prices. In simple economic terms the consumer funds absorbed figure adjusted represents exchange value; that is, the amount of commodities and services commanded by each of the products. Industries which give consumers increasing value are regarded as industries excelling in the performance of their social obligations. It is regarded as one of the social obligations upon an industry to put out its product at ever lower cost. Again the average annual increment or decrement was

⁷ Editor's footnote: Single-industry judgments must not be pushed this far. Rayon may soon all come from two or three mechanical one-man plants. This will leave more men for plastics, automobiles, aircraft, etc., lower the price of rayon and diminish the effort involved in producing it.—BLACKWELL SMITH.

computed and the industries ranked in order of the size of the increment.

On this basis the knit goods industry comes first. It has given steadily more of its product in exchange for other things. The electric light and power industry is second, indicating the extent to which in that industry the benefits of increasing technology have been passed on to consumers in the form of lower prices, due in part perhaps to Governmental competition. The tobacco industry comes third.

At the bottom of the list come the lumber and timber products, slaughtering and meat packing, iron and steel, and chemical industries, all of them being industries characterized, as the records of the Federal Trade Commission and the Department of Justice abundantly show, by various forms of price maintenance and price administration effectively carried out under private control. These industries, in fact, have increased the exchange value per unit of their product. They have taken more from consumers. It has required more consumer effort to get a given unit of their product.

The sixth criterion of social performance is the ratio of pay rolls to consumer funds absorbed. Obviously business has to meet its pay rolls out of its sales. Any going business has to collect from its customers the dollars it disburses to labor. It is constantly making efforts to adjust its expenses to its receipts, trying of course always to keep expenses as low as possible.

But pay rolls of industry constitute the major form of national income. Workers as a class are the primary group among whom business finds a market for its wares. Pay rolls constitute the purchasing power that moves the products of industry into consumption channels. The motive power of expansion in national income is expansion of consumer buying power which in the main means the expansion and maintenance of pay rolls both through expansion of investment and through enlarged consumption.

Any industry, therefore, which tends to increase its collections from consumers relative to the funds which it disburses to labor is an industry cutting off the market both for other industries and for itself. An industry, on the other hand, which makes large investments, and particularly that process of making capital investments which result in advances to labor without increasing the supply of consumer goods, is an industry increasing the market for all enterprise. In short, in the measure an industry maintains and expands pay rolls it performs a social benefit. It helps to maintain the national income. Insofar as an industry contracts pay rolls, it contracts national income and may contribute to retarding a boom or hastening a decline.

Over the period here considered the agricultural implements industry stands at the top of the list. The automobile, baking and confectionery, knit goods, and canning and preserving industries follow in close succession. On the other hand, there are a number of industries that, relative to the amount of consumer funds collected in the base year, decreased the proportion of their sales dollar that they paid out to labor in the form of wages and salaries. Among those in which this decrease is greatest are the chemical, tobacco, and oil and gas producing industries. In these industries a smaller proportion of the consumer dollar was paid out to labor and larger amounts went to stockholders in the form of dividends and interest or were accumulated in the form of cash or other surplus reserves.

These accumulations have in recent years become so large in the American economy as to constitute the grave problem of idle money.

The seventh criterion of social performance is one which compares the trend in pay rolls with that in dividends and interest payments. Pay rolls are paid out to millions of wage earners in sums ranging from amounts lower than \$6 and \$7 a week to salaries of more than \$10,000 a week. Pay rolls represent disbursement to the masses. On the other hand, dividends and interest, by and large, represent disbursements, usually on a quarterly basis, to a relatively small proportion of the income recipients. In the study made by the National Resources Committee called *Consumer Incomes in the United States, Their Distribution in 1935-36*, there were estimated to be 29,000,000 families and 10,000,000 individuals who receive income of one sort or another. By far the larger proportion of these derive almost the whole of their income from wages and salaries. On the other hand, the income-tax returns of the Bureau of Internal Revenue show that about 600,000 families receive more than 75 percent of all the dividends and interest payments in the United States. While there are millions of security holders, most of them own only a few shares of stock and receive an insignificant part of their income in the form of dividends and interest.

Even in companies so widely owned as the American Telephone & Telegraph Co., which had in 1935, 664,095 stockholders, the percentage of stock owned by 382,000 of the stockholders was less than 10 percent. At the other extreme, 33,938 stockholders on record owned 100 shares or more with a total of 9,416,899 shares; to put it in another form, 5.1 percent of the stockholders according to the ledgers of the American Telephone & Telegraph Co. owned 50.5 percent of the outstanding shares.⁸

It is therefore clear that disbursements in the form of dividends and interest go in the main to relatively few families to which should be added the fact that stocks and bonds are owned in large part by persons who already have a relatively high income from other sources. For stocks and bonds represent savings. And those who have an annual income of over \$5,000 do about 85 percent of the total saving that is done. In other words, even when disbursements of dividends and interest are made in small amounts, they tend to be made to persons whose income is already adequate to take care of ordinary consumption requirements. Such dividends and interest disbursements, therefore, are added to the pool of savings. They are not spent for consumable goods. In short, without laboring the point further, dividends and interest disbursements go in the main into reservoirs of savings; they do not become purchasing power unless invested. Investment is, of course, highly beneficial unless there already exists sufficient capacity to produce in excess of consumption requirements.

Insofar as an industry collects more and more dollars from the public but takes larger and larger slices of such dollars and puts them into dividends and interest, it contributes in a period of abundant productive capacity to the problem of excess savings and idle money. On the other hand, insofar as a company maintains its pay rolls, it gives employment to labor, it helps maintain the stream of consumer income which maintains and opens the market for industrial products.

⁸ N. R. Danilelian, A. T. & T., *The Story of Industrial Conquest*, (New York: 1939) p. 177.

Industries, therefore, in which the trend has been that of increasing pay rolls rather than dividends and interest are given a favorable rating.

On that basis the petroleum refining industry ranks first, the knit goods industry second, and the woolen and worsted goods industry third. These are industries that have turned the dollars which they have collected from consumers back to labor and so back into the channels of business and the stream of buying. On the other hand, the industries at the bottom of the list are the canning and preserving, the electric light and power, and tobacco industries. These have paid less and less to labor of the dollars which they collected from the public and diverted more and more of it from the channels of trade to the reservoirs of idle funds. Instead of putting dollars to work by disbursing them to labor, they have retired them into inactivity and in the process have helped to bring upon the economy in exaggerated fashion not only a problem of idle money but also a problem of idle machines and idle men.

In conclusion, turn to the bottom section of table 1. There the industries are given a composite rating based on a combination of the separate rankings just discussed. Two sets of ratings are given: one on the narrow but important basis of the three criteria—production, employment, and pay rolls; the other on the broader basis of all seven criteria. In each instance two measurements are given, the first simply cumulating the increments (a procedure which assumes that a 1 percent change in pay rolls upward or downward is no more or less important than a 1 percent change in production, employment, etc.), the second cumulating the respective numerical ranks (a procedure which assumes as between industries that unequal differences in increment are equally important, e. g., the 0.28 difference between chemicals and canning and preserving is given no more weight than the 0.01 difference between the latter and electric light and power). The results, while broadly identical, do present interesting differences.

In terms of the first three criteria—production, employment, and pay rolls the rating, if one cumulates increments, is as follows: Chemicals and canning and preserving stand clearly at the top of the list; petroleum refining, knit goods, agricultural implements, baking and confectionery, electric light and power belong in the next highest group; paper and pulp, slaughtering and meat packing, oil and gas producing, boots and shoes, woolen and worsted manufacturing, iron and steel, and automobiles belong in the average to medium low class; tobacco, cotton goods, flour and other grain milling come in the definitely below-average category; while metal mining, coal mining, furniture making, manufacture of lumber and timber products and steam railroads are conspicuously low in performance.

If one rates the industries by cumulating respective ranks, the grouping given above remains entirely unchanged, even though priority of individual industries within the respective groups may be slightly different.

Not nearly so complete, however, is the agreement if one takes the seven criteria. Baking and confectionery and knit goods come up in the top group while chemicals go down from first to tenth place (cumulative rank) or from second to seventh place (cumulative increment). The automobile industry comes up into the second group while the electric light and power industry goes down into the average to medium

low class. The cotton goods industry shifts up several grades from fifteenth or sixteenth to ninth or eleventh place, as does oil and gas producing. Tobacco comes down two grades into the group of lowest performance. Otherwise the ratings whether by three or seven criteria, by cumulating increment or cumulative ranks, are nearly identical.

It is notable that all the composite ratings place five industries at the foot of the list, namely, metal mining, coal mining, furniture manufacturing, lumber and timber products manufacturing, and steam railroads. These industries have substantial if not major responsibility for the present unemployment problem and the insufficient pressure of purchasing power in the markets. If it were lack of confidence which causes unemployment and underproduction, the curious question arises why such lack of confidence should be centered in these particular industries. In only one of these—namely, steam railroads—is government regulation of any importance and that regulation is not complained about. In fact, the Interstate Commerce Commission is often held up by industry itself as a model. In the other industries, except for attempts to stabilize prices during the last few years in coal mining, the Government has not even the semblance of regulation. Yet it is here that we find the problem of unemployment in concentrated form. These, it should be mentioned, do not differ from those of excellent performance in that they make durable goods, for clearly the agricultural implements industry which is near the top of the list represents a durable-goods industry. Nor can it be that they differ in that they make industrial products because the chemical industry, which is near the very top of the list sells almost exclusively to industrial markets. Clearly something other than lack of confidence or Government regulation or durability of product or nature of the market must also be at work. That something is obviously to be found in the economic circumstances of each of these industries. What that something may be obviously goes beyond the scope of this study.

CHAPTER III

GROUPS OF INDUSTRIES

In the preceding chapter individual industries were taken up, the 22 mentioned accounting for more than 75 percent of employment in manufacturing, mining, and public utilities in the United States. In this chapter an attempt is made to compare the social performance of various segments of the economy. These in turn are placed for purposes of convenience into two groups, the first consisting of agriculture, manufacturing, mining, transportation and other public utilities, and construction, the second consisting of government, finance, service enterprises, and trade. Eight criteria of social performance have been worked out for the first group, five for the second. Together they comprise the important segments of the American economy.

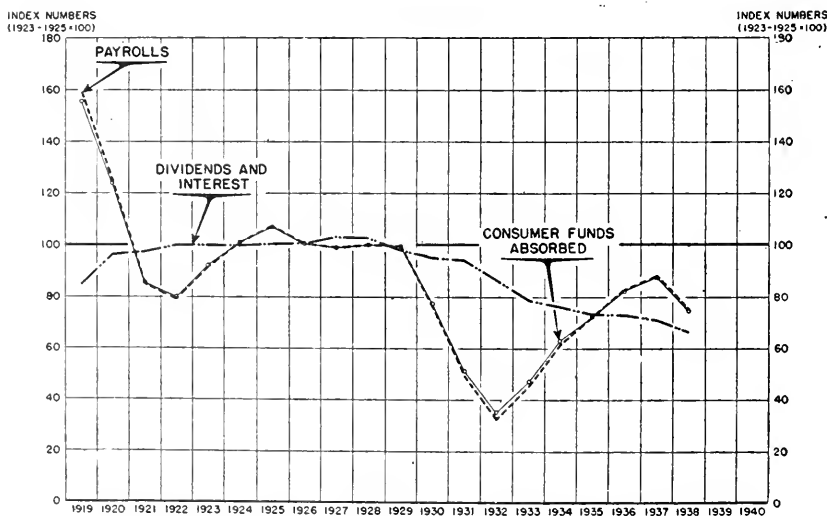
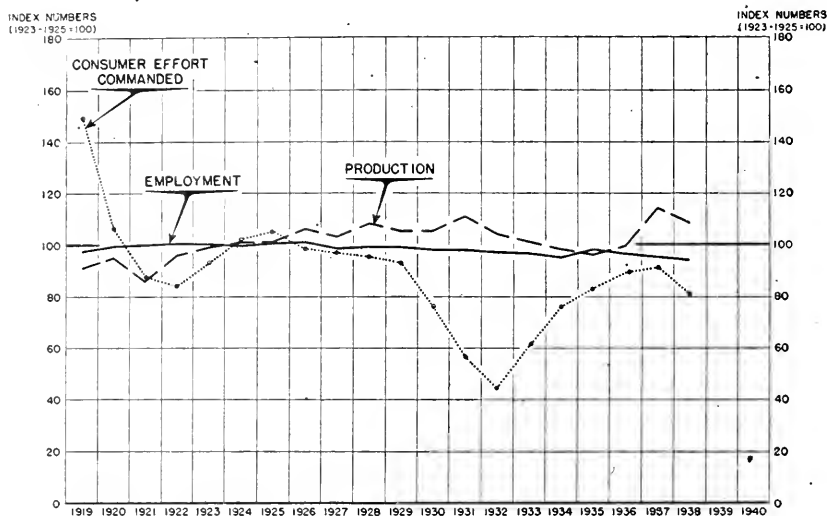
AGRICULTURE

Turning first to agriculture, note in this industry that over 11,000,000 persons were gainfully occupied in the period from 1923-25. Moreover, it has substantially maintained employment since then (see chart 23) despite the extraordinary severity of the world depression. It has also gradually increased production. In 1937 the total amount was greater than in any previous year in American history. Even in 1938 production was greater than in any previous year except 1937 and 1931. This fact may come as a surprise to those accustomed to lay great emphasis on the alleged restriction of production carried out by the Agricultural Adjustment Administration. Many such do not seem to understand the difference between "adjustment" and "restriction." Frequently those who speak in season and out of season of alleged restriction of production by the Agricultural Adjustment Administration are completely silent about the enormous real restriction of production that takes place in industry. Like the Pharisees of old such persons see the mote and ignore the beam. They become excited over agricultural adjustment and placidly condone or even defend that collective withdrawal of efficiency which characterizes monopoly and a good deal of large-scale business. In fact, Professor Slichter, of the Harvard Graduate School of Business Administration, goes so far as to say "under existing economic arrangements, most enterprises must normally restrict output in order to maintain solvency."¹

Notice, too, that agriculture has decreased its employment relatively little, particularly during the depression. If all of industry had done its job as well as agriculture, unemployment in 1932 and 1933 would never have reached figures larger than 2,000,000.

¹ Sumner Slichter, *Modern Economic Society* (New York: 1928) p. 5 (italics in the original).

CHART 23.
SOCIAL PERFORMANCE OF AGRICULTURE
 UNITED STATES, 1919-1938



Agriculture, moreover, has been giving the consumers extraordinary value. If 2 years are compared in which production was about the same, say 1928 and 1938, the gain to consumers during the decade was nearly 20 percent. This fact should again be emphasized. Contrary to certain well-entrenched prejudices, agricultural adjustment programs have not penalized consumers. As a matter of fact, there is hardly an industry in the whole list of industries which were analyzed in the preceding chapter whose record of performance is as beneficial to consumers as is the record of agriculture.

Turn now to the dollar figures. Notice that the total of consumer dollars collected from the public by agriculture declined precipitously from 1929 to 1932, being in the latter year reduced to less than one-third of what they were in 1925. Since 1932 the dollars which have been received by farmers for their product have increased two and one-half times. But these dollars, as shown by the labor income figure, have gone directly to those gainfully employed on the farm. They have not gone to dividends and interest.

Dividends and interest figures are relatively low, particularly since 1935. During the early part of the depression, for example in 1932, while the farmers got only 35 percent of the dollars that they collected in the period 1923-25 they still had to pay out 86.7 percent as much in dividends and interest. Governmental policy in the early thirties was directed toward taking what little income the farmers had and seeing to it that it went to those who held farm mortgages. In recent years, however, that situation has been adjusted.

In chart 23-A some further details are given concerning employment and labor income on the farm. Since 1930 there has been a tendency for family workers on the farm to increase while the percentage of hired workers has gone down so that in 1938 it was 88 percent of what it had been in the period from 1923-25.

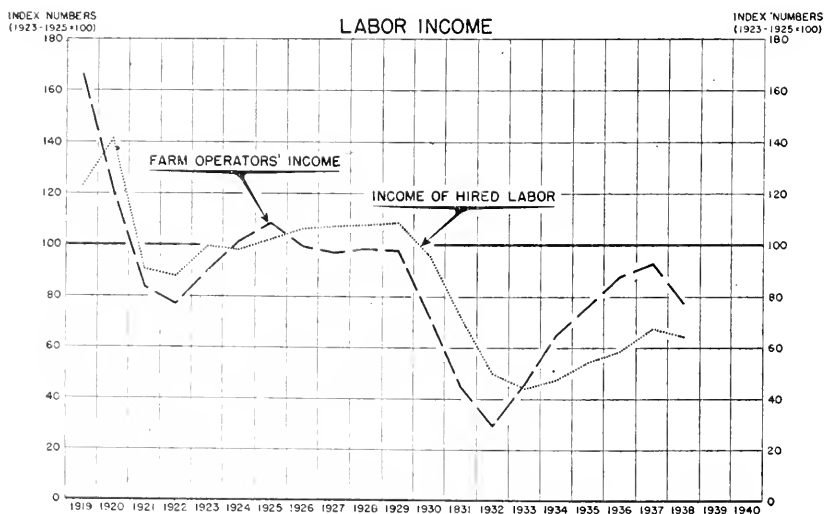
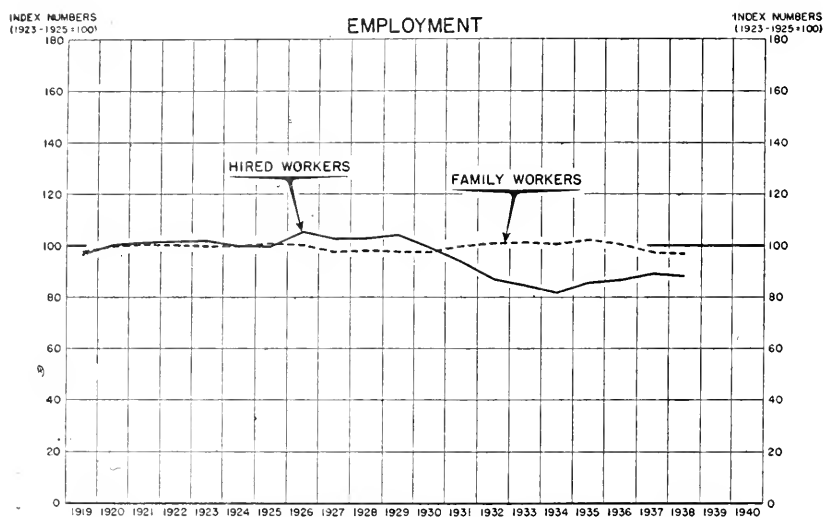
Interesting also is the contrast between the income of the hired laborer and the income of the farm operator. The income of the farm operator began to decline in 1925 and reached a low in 1932 of less than 30 percent of what it had been in the period from 1923-25, from which level it recovered to 92.7 in 1937. The curve showing income of hired labor is practically level from 1923 until 1929. In that year it began to fall rapidly though not as rapidly as the income of farm operators. Since 1933 it has been lower than that of farm operators due primarily to the fact that the number of hired workers has only increased about 8 or 9 percent since 1934.

In short, the workers got the major benefit of the boom and were let down easy during the slump. This should be contrasted with the almost universal pattern in industry in which labor income not only failed to rise as rapidly as owner income during prosperity but fell first during the depression, as a general rule falling far more than dividends and interest which, as was noted above in industry after industry, did not even start to decline until 1930 and in nearly every instance failed to decline as much as did pay rolls.

MANUFACTURING

The data for all manufacturing industries are summarized in chart 24. Here are added together the results not only for the 17 manufacturing industries contained in the sample of 22 which were dis-

CHART 23-A.
**FAMILY AND HIRED WORKERS
 IN AGRICULTURE**
 UNITED STATES, 1919-1938



cussed in the last chapter, but data for all the other manufacturing industries employing in the aggregate in the period from 1923-25 7,738,700 persons. This is the segment of the economy characterized by large-scale production and rapid advances in technology. It is the segment typically controlled by the businessmen who form the National Association of Manufacturers. This segment in 1938—a mild depression year—produced the same volume of commodities as it did in the mild post-war depression year of 1919. Yet the number of laborers employed in 1919 was nearly 20 percent larger, a matter of a million and a half persons.

None the less in 1937 manufacturing employed more persons than in any other year in recent industrial history, even more than in 1929 though the total volume of manufacturing in 1929 was some 10 percent larger. The reason, of course, is largely to be found in the decrease in hours from an average of more than 48 a week to one of less than 40. The exchange value of manufactured products has on the whole stayed in line with production although it is a well-known fact that the prices of manufactured products held up remarkably well in the depth of the depression.

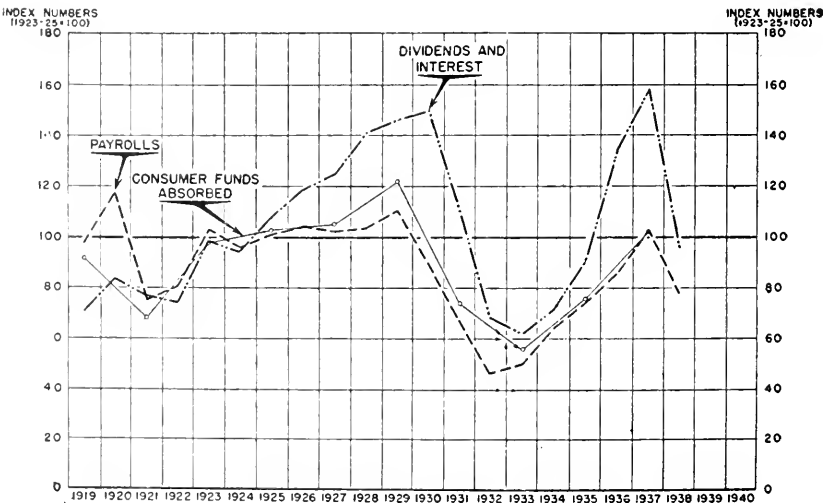
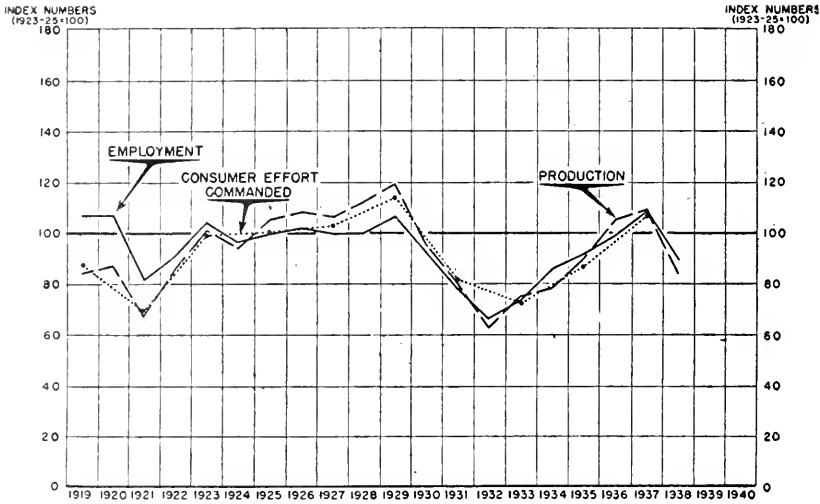
Turning to the dollar figures in chart 24, note the wide yearly variation in the amount of dividends and interest paid. From a level of 70.3 in 1919 dividends and interest disbursements rose sharply to a level of 149.2 in 1930. By 1933 they had fallen to a level of 62.1 but in 1937 dividends and interest disbursements reached an all-time high. Particularly striking is the fact that dividends and interest should keep rising after 1921, remain relatively high throughout the collapse of 1930-33 and rise much more sharply than pay rolls in the period from 1933-37, remaining throughout the period since 1925 in a highly favored position, both relative to pay rolls and relative to consumer funds absorbed. The singular spurt in 1936 and 1937 is undoubtedly due, in part, to the influence of tax legislation, especially the tax on undistributed earnings.

At no time have pay rolls ever reached the level that they had in 1920. Even in 1929 pay rolls were below 1920 levels with production more than one-third higher and dividends and interest nearly 80 percent higher. In the early thirties pay rolls not only fell immediately but fell faster and deeper than dividends and interest. Since 1933 they have risen less quickly than dividends and interest, only reaching a level of 102.5 in 1937, which is roughly twice the 1933 level, as opposed to dividends and interest which were two and one-half times their 1933 level. Stockholders in recent years have been favored over wage earners.

Of interest is the fact that the manufacturers' toll upon consumers has kept pace with production and that they have paid out an increasing percentage of that take in dividends and interest and a decreasing percentage in pay rolls in the period from 1926 to 1933. Only with the advent of a change in governmental policy were pay rolls brought to a level which relative to consumer funds absorbed equaled that in 1926. In short, as I have said elsewhere, manufacturing corporations have—

met a part of their dividend payments and interest charges out of surplus. Indeed the very purpose of accumulating surplus in boom times is that of being able to maintain stability of dividend and interest payments in lean years. Sound business policy has for decades dictated "ploughing in" a substantial part of earnings during periods of smooth sailing in order, to weather successfully the recurrent financial storms. The period since 1926 has been no exception.

CHART 24.
SOCIAL PERFORMANCE OF ALL
MANUFACTURING INDUSTRIES
UNITED STATES, 1919-1940



In short, corporate financial policy has succeeded rather admirably in doing that which it was designed to accomplish, namely maintain dividend and interest payments. It is beside the point to argue that property income was thereby placed in a favored and sheltered position, while millions of unemployed saw their incomes stop completely and more millions of wage earners through short work-weeks and wage cuts participated fully in the economic catastrophe. * * * Inability to meet fixed charges means threat of bankruptcy, no matter how continuously and steadily employment and wages have been maintained, no matter how reasonable the prices, and how excellent the service to the consumer. The wages of capital are not cut as easily as the wages of labor. Business enterprise is often under contract to pay a fixed return to capital, a return sometimes economically unearned upon capital goods long since worn out or obsolete. If necessary this return is paid out of surplus.²

Such was the story revealed for manufacturing as a whole in 1935. Such is still the case.

In order to get a more realistic grasp of the difference in experience of the various parties that receive funds from manufacturing concerns, note carefully the data given in table 2. These figures compare factory pay rolls with dividends, interest payments, and compensation of officers. Outstanding is the fact that interest payments have on the whole declined steadily, particularly since 1930 when they amounted to \$244,000,000 as opposed to \$143,000,000 in 1938. On the other hand, notice the extraordinary difference in the behavior of dividends which in 1937 reached an all-time high for the period, \$2,871,000,000. The index number is 161.8. In 1929 they were some 10 percent lower, \$2,575,000,000. In 1923, a more normal year, they were \$1,762,000,000. Thus the disparity between dividends and factory pay rolls is considerably larger than the disparity noted above between dividends and interest and factory pay rolls.

TABLE 2.—*Factory pay rolls, dividend and interest payments, and compensation of officers in all manufacturing industries, 1919-38*

Year	Factory pay rolls ¹ index, 1923-25= 100	Dividends ²		Interest payments ²		Compensation of officers	
		Millions	Index, 1923-25= 100	Millions	Index, 1923-25= 100	Millions	Index, 1923-24= 100
1919	98.0	\$1,261	71.1	\$85	60.3	\$823	85.2
1920	117.2	1,487	83.8	107	75.9	997	103.2
1921	75.6	1,323	74.6	137	97.2	879	91.0
1922	81.2	1,309	73.8	105	74.5	911	94.3
1923	102.9	1,762	99.3	117	83.0	961	99.5
1924	96.0	1,651	93.1	154	109.2	971	100.6
1925	101.1	1,909	107.6	153	108.5	(3)	(3)
1926	104.2	2,117	119.3	151	107.1	(3)	(3)
1927	102.4	2,225	125.4	153	108.5	(3)	(3)
1928	103.5	2,506	141.3	183	129.8	1,108	114.7
1929	100.4	2,575	145.2	210	148.9	1,172	121.3
1930	89.4	2,613	147.3	244	173.0	1,096	113.4
1931	67.8	1,894	106.8	225	159.6	935	96.8
1932	46.7	1,116	62.9	192	136.2	734	76.0
1933	50.1	1,009	56.9	181	128.4	706	73.1
1934	64.5	1,221	68.8	139	98.6	754	78.0
1935	74.1	1,580	89.1	161	114.2	812	84.0
1936	85.8	2,405	135.6	148	105.0	951	98.4
1937	102.5	2,871	161.8	142	100.7	1,076	111.4
1938	77.9	1,668	94.0	143	101.4	956	99.0
1939	(2)	(3)	(3)	(3)	(2)	(2)	(2)

¹ Annual average of 1 weekly pay roll each month.

² Exclude intercorporate dividend and interest payments and short-term interest. Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929, the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research, shown in Simon Kuznets, *National Income and Capital Formation, 1919-35*.

³ Comparable data not available.

⁴ Estimated from total salary compensations in all manufacturing industries as computed by the Department of Commerce.

Sources: Factory pay rolls from U. S. Bureau of Labor Statistics, *Employment and Pay Rolls*; dividends and interest payments from Department of Commerce, *National Income Division*; compensation of officers from U. S. Bureau of Internal Revenue, *Statistics of Income*.

² T. J. Kreps, "Dividends, Interest, Profits, Wages, 1923-35" in *The Quarterly Journal of Economics*, vol. xlix, August 1935, pp. 573-575.

Not only has management been considerate of the stockholder, a considerateness frequently acknowledged and publicized, it has been considerate of itself. In the twenties, while pay rolls rose from a level of 102.9 in 1923 to 110.4 in 1929 (7.5 points in that 6-year period) compensation of officers rose 21.8 points, or practically 3 times as much. On the other hand, between 1929 and 1933 factory pay rolls declined by more than half to a level of 50.1; that is, they declined 60.3 points, whereas compensation of officers declined to 73.1, or a total of only 48.2 points from a higher level. Again in 1937, pay rolls reached to a level of 102.5, or about the same as they were in 1923. But officers' compensations had increased to 111.4, as compared with 99.5 in 1923.

Thus pay rolls not only rose less during periods of prosperity but declined sooner and faster in periods of depression. Not so the compensation and salaries which the officers of corporations allot to themselves. They are the first to benefit when prosperity comes and the last to suffer in days of depression.

In conclusion, the fact should be noted that the comparisons here made, if anything, fail adequately to represent the disparity between payments to labor and payments to the owner-manager-property account. For the salaried officers of a corporation, by and large, not only have relatively high incomes but also own stock and bonds either in that corporation or in other corporations. Moreover, they receive bonuses directly or through participation in management profit-sharing corporations.

Particularly in the case of smaller concerns, officers' compensation and perhaps even interest on some of the bonds represent a commuted sort of return on what the managers have in the business. This fact is important in understanding some of the reductions in surplus that occurred during the early and middle thirties, for small concerns often show more or less fictitious reductions of surplus or increases in deficits on their balance sheets because of the practice of accruing compensation of officers (for tax purposes) and balancing these accruals by loans from officers.³ Management and property are not only substantially identical in economic interest (not of course in the individual enterprise, particularly if it be large, but in the aggregate or class) but must be so to a great extent for obvious legal reasons. Consequently the comparisons shown in chart 24 understate the case. The disadvantage to labor is minimized, the gains of the owners and managers understated.

MINING

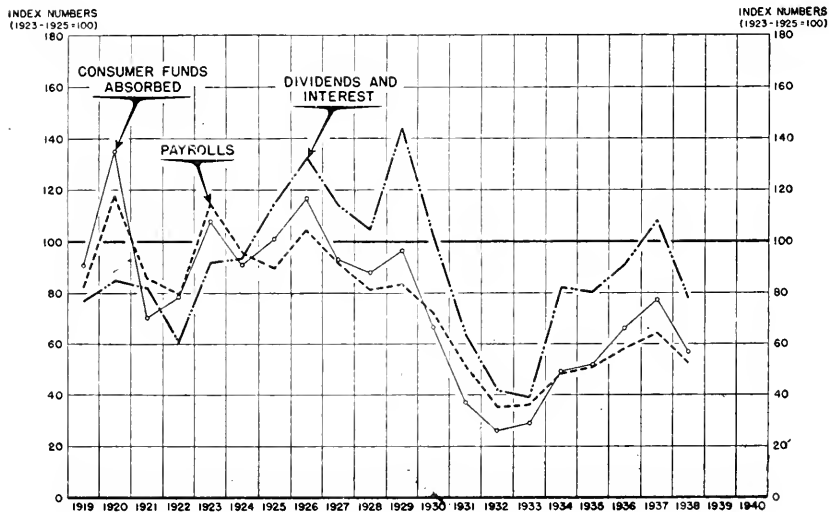
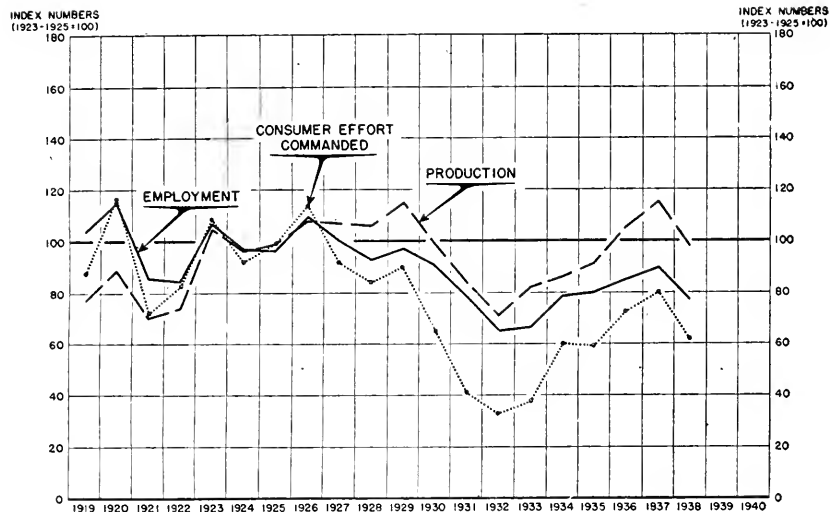
The outstanding feature of the mining industry (see chart 25) is the manner in which production in recent years has outrun employment despite the decrease in the number of hours. In no branch of enterprise have technological advances been so rapid.⁴ Employment at no time reached the level of 1920. Output in 1929 was nearly a fifth larger than 1920 levels but employment was nearly a fifth less. In 1937 the industry again reached the 1929 peak of production but it employed still fewer workers.

Since 1929 the industry has sold its product on the bargain counter. The amount of consumer effort commanded in 1937 was more than

³ See Solomon Fabricant, *Profits, Losses, and Business Assets, 1929-34*, National Bureau of Economic Research, Bulletin 55, April 11, 1935, p. 3.

⁴ See Solomon Bell, *Productivity, Wages, and National Income*, pp. 65-66.

CHART 25.
**SOCIAL PERFORMANCE OF ALL
 MINING ACTIVITIES**
 UNITED STATES, 1919-1938



10 percent less than that which the industry got for the same amount of product in 1929. In other words, except for the spurt in 1937 the prices of copper, zinc, lead, and other minerals have consistently stayed considerably below the level of general prices, wages, rents, and the like.

Turning to the dollar figures, note first of all the great instability of the industry. The peak of all-time net-sales realization occurred in 1920. By 1929 the industry had diminished its net absorption of consumer funds by nearly 20 percent while in 1932 the index of consumer funds absorbed was only 25.8 (1923-25=100) as compared with 116.4 in 1926. By 1937 the figure had increased threefold. Pay-roll figures, except for the years 1921-24 and 1930-33, have remained consistently below the index of consumer funds absorbed.

On the whole, the industry has been paying out a smaller part of the dollar collected from the public to its labor. This again is but a reflection of the rapid increase in labor-saving devices in the mining industry. On the other hand, the proprietorship account has been consistently favored. Comparing 1923 with 1929, for example, although there had been only a decline of 11.4 points in the number of consumer dollars absorbed, there was a decline in the index of pay rolls of 31.3 points. But dividends and interest payments increased more than 50 percent from 92.1 to 144.1. During the depression they never declined as low as wages and were the first to pick up in the late thirties. Comparing 1933 and 1937, for example, notice that the amount of consumer funds absorbed increased 49 points, pay rolls only 28.5 points, but dividends and interest 68 points—that is, more than double the increase in pay rolls.

TRANSPORTATION AND OTHER PUBLIC UTILITIES

The group of industries called transportation and other public utilities, in which are included in addition to steam railroads, the electric light and power and gas industries, street railways, and telephone and telegraph industry, on the whole represents a series of industries regulated by commissions such as the Interstate Commerce Commission, the Federal Communications Commission, and various State public-utility commissions. Measures of social performance in this segment reflect, therefore not only the adequacy of business policies but the economic theories of regulatory bodies. They show the purposes and goals of regulation as formulated by the judiciary and carried out by the various commissions.

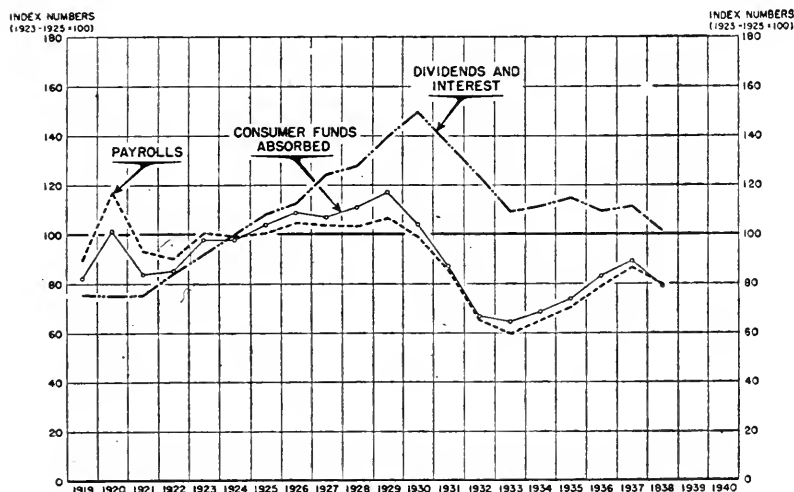
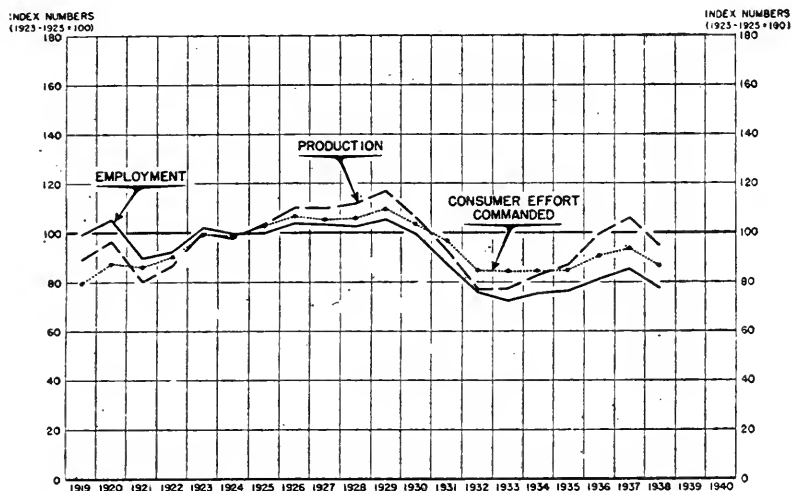
Turning to chart 26, notice that in this segment of the economy production has likewise tended to run ahead of employment, noticeably so in the last few years. The reason is again largely one of rapid technological advance. Comparing the years 1923 and 1936, for example, years in which production was roughly identical, notice that the amount of employment had declined by over 20 percent, despite the decrease in number of hours worked per week. In an industrial group employing 3,651,000 workers in the period 1923-25, such a decline in employment accounts for more than 700,000 of those seeking jobs in 1936 who would have had jobs in 1923 under the conditions of production then obtaining.

A good deal of this has been passed on to consumers in lower prices as is shown by the fact that since 1925 the curve showing consumer

CHART 26

SOCIAL PERFORMANCE OF TRANSPORTATION AND OTHER PUBLIC UTILITIES

UNITED STATES, 1919-1938



effort commanded has remained (except for the years 1931-34, inclusive) fairly consistently below the index of production, especially so in 1936 and 1937 when the Interstate Commerce Commission and the Tennessee Valley Authority began to explore the possibilities of creating more volume by quoting lower rates.

The effects of the economic doctrines held by the judiciary which has controlled governmental regulation are quite clearly shown in the dollar figures, the outstanding fact there being the perfectly extraordinary rise in dividends and interest from 1921 to 1930 together with the failure by a good deal of dividends and interest to fall as much as pay rolls or the index of consumer funds absorbed. Comparing 1923 and 1936, both years of moderate prosperity, notice that production was nearly the same yet pay rolls declined from 100.4 in 1923 to 78.6 in 1936, or more than 20 percent. The story of dividends and interest, however, is exactly the reverse. They increased 20 percent.

The main effort of judges and of commissioners has been so to regulate public utilities that they might earn as nearly as may be a so-called "fair rate of return" on the fair value of the property invested for the benefit of the public. The wide spread between the pay rolls and dividends and interest curves is interesting evidence of the practical realization of such judicial economics. The result was not only to place the weight of government behind attempts to give capital a rate of return regarded by judges as "fair" though economically more than the industry could earn. It was to set rates at levels regarded high enough to earn such a return. But the high rates decreased consumption and increased costs, especially the overhead cost per unit. The decreased consumption resulted in actual or constructive decreases in employment. Profits adequate to produce the "fair" rate of return were still not being earned. In short, the maintained rates, the low volume, high costs, depression, and unemployment in this segment of the economy represent to no small degree the cost to society of a judicial economics which, while geared to the dire need for protection of capital that existed in feudal society (out of which grew Anglo-Saxon law) is not wholly suited to the modern economy of abundance which needs markets, maintenance of pay rolls, mass purchasing power, and low prices to consumers.

As I have said on a previous occasion, "Due to a tragically mistaken policy taxpayer funds were even doled out by the billion in order to keep inflated capital structures from being put through the wringer."⁵ The first public moneys spent by the Reconstruction Finance Corporation were those which went to the relief of railroad bondholders. How great a deterrent to prosperity this mistaken policy has been can scarcely be guessed. The capital load and the resultant fixed charges form a considerable incubus on productive enterprise. Needless to say, the debt load which the courts have tried to validate into the public-utility price structure is an uneconomic subsidy to capital. Only by Government interference and by threatening managers with displacement through bankruptcy proceedings would the managers of the railroads ever have maintained dividends and interest payments at the inflated level which has existed since 1925. Such governmental interference with economic processes should be removed. Capital should receive only what it earns, what it is worth economically.

⁵ T. J. Kreps, "Dividends, Interest, Profits, Wages, 1923-35," in the *Quarterly Journal of Economics*, vol. xlix, August 1935, p. 585.

In view of the enormous amount of excess savings in recent years the price of capital is bound to be low just the way the price of potatoes is low when the harvest of potatoes is abundant. Yet the railroads and the utilities have not been allowed to take advantage of this economic fact. Judges still talk of 6, 7, and 8 percent as a "fair" rate of return in an age when the market price of savings is less than 3 percent. The high rates not only fail to produce net revenue but cause unemployment and loss of traffic. Until the interest burden, that is, until the debt load in the railroad and utility industries is brought down to a sound and healthy basis, there may not be sound and healthy recovery in those industries.

CONSTRUCTION

As is well known, the segment of the economy which has suffered the most during the last 10 years has been that series of industries lumped together in the construction industry. In no chart in this chapter is the dip as pronounced as that which shows up in chart 27. Notice that production in the industry reached its high in 1926 and declined steadily thereafter until in 1933 it had gone down by more than 70 percent, the index being only 33 in that year as opposed to 119 in 1926. Since 1933 construction has more than doubled but it is still at levels only two-thirds as high as in the base period from 1923-25.

On the whole, the employment curve has followed the curve of production though it did not rise as sharply between 1919 and 1926 as did production. Moreover, it remained consistently below production, especially in the early thirties. In short, the industry has shown little if any technological change, in that regard being an outstanding exception in an economy otherwise undergoing revolutionary technological transformation.

The index of consumer effort commanded shows, if anything, a greater variation than the index of production. If one were to take the index as it stands, one would be led to the conclusion that the construction industry had, especially since 1925, continuously been giving consumers greater value for their money. Such a conclusion, however, cannot be reconciled with the well-known fact that throughout the period, particularly since 1929, cost of housing and construction has remained relatively high.

As has been pointed out by numerous experts and, in particular, by Prof. Frederick C. Mills in his series of studies on prices, especially in his volume *Prices in Recession and Recovery*, the wholesale prices of building materials have remained on a high plateau ever since 1925 but especially since 1930. In chart 27A⁶ are shown the results of Dr. Mills' study. Notice that the price of producers' goods, building materials, the dotted line in the chart, fell much more slowly than did other commodities from 1929 to 1933. It rose early in 1933 and again in 1937 and has consistently remained above the index of prices in general. This is likewise true for capital equipment. The chart gives a valuable clue concerning the reason why recovery in the capital-goods industry, including construction, has been lagging behind

⁶ Investigation of Concentration of Economic Power, hearings before Temporary National Economic Committee, Pt. 11, Construction Industry, exhibit 915, p. 5232; cp. National Resources Committee, Housing Monograph Series No. 3, Land, Materials, and Labor Costs, fig. 32, "Comparison Between Building Material Prices and All Commodities, Wholesale Prices 1913-37," p. 59.

CHART 27.
SOCIAL PERFORMANCE OF CONSTRUCTION
 UNITED STATES, 1919-1938

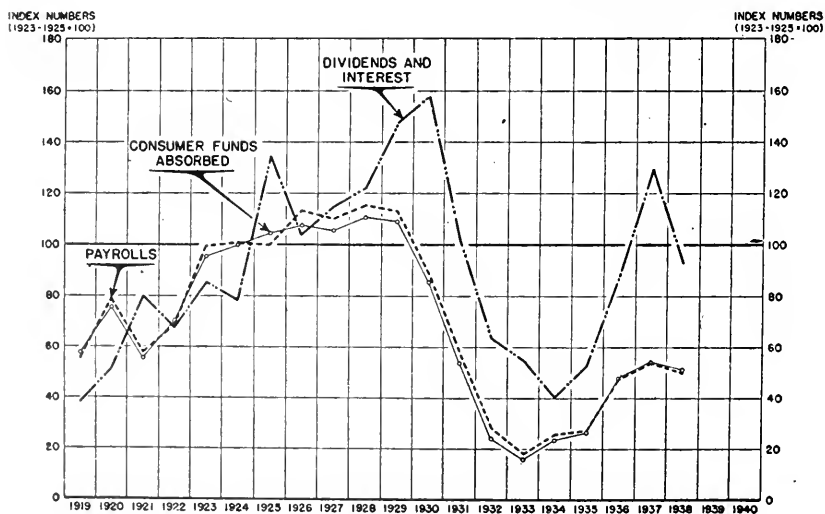
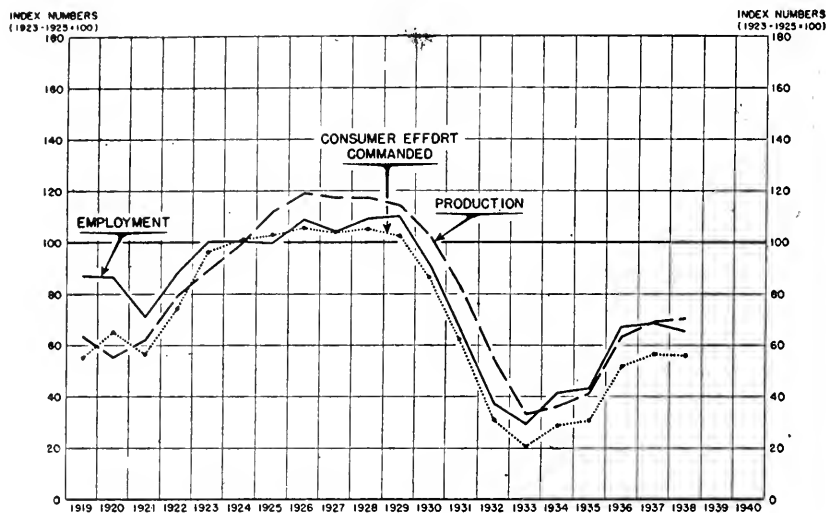
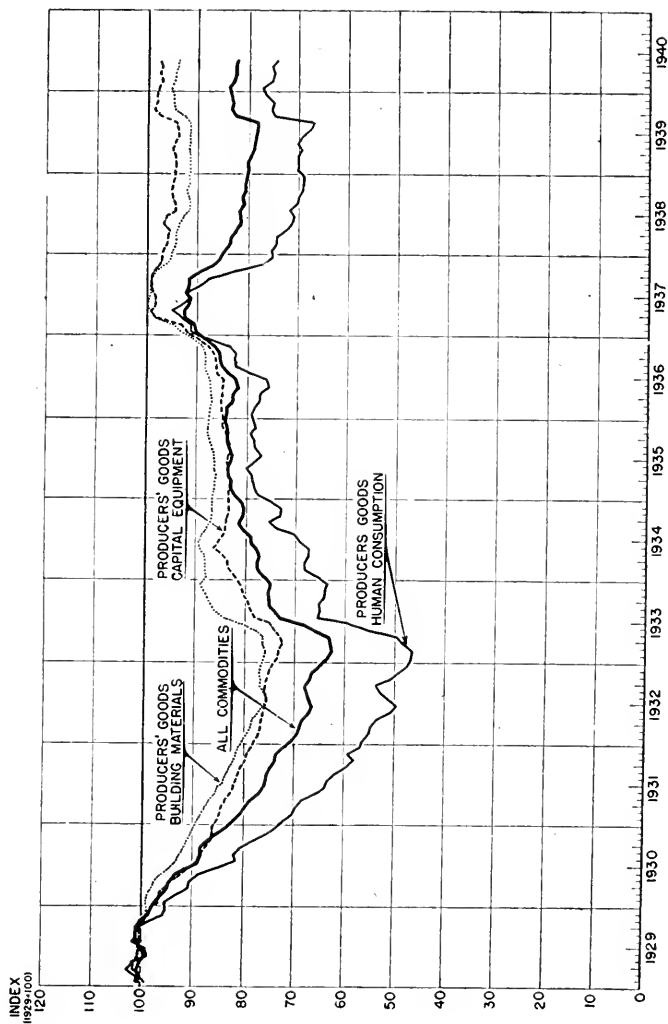


CHART 27A
TREND OF WHOLESALE PRICES
 UNITED STATES, JAN. 1929-MAR. 1939



recovery in other industries, notably those producing consumers' goods.

If prices and costs in the construction industry have been high, why do the figures show relatively less consumer effort being commanded? The reason for this discrepancy is a technical one. It lies in the fact that the consumer-funds-absorbed index is here made up as elsewhere of the figures representing income produced published by the Department of Commerce. As indicated in appendix A, this is technically accurate in every industry in which the amount of speculation and inventory adjustment is either small or consistent throughout the period. Normally income produced represents the value of net product. But where the volume of negative business savings is likely to be overestimated the figures for income produced are very likely to be too low. Negative business savings on the whole are represented by business on its accounting books as net losses. As such they are most likely to be overestimated in those industries such as housing, in which there is a great deal of speculative activity.

As is well known housing throughout the twenties was mainly carried on by speculative builders who would build a large number of houses and then try to sell them. But the housing shortage was substantially over in 1925. The housing market began to decline shortly thereafter and was doubly hit by the depression. As a result the speculative builders charged off as losses the declines that took place in the value of the properties which they had put up. In effect, they wrote down the price of their inventories. This write-down was charged against current receipts so that their reported net income; that is, the figure representing income produced, was substantially less than the funds which they actually collected from the public. In other words, the income produced figure being too low, the index of consumer funds absorbed is too low and even with adjustment for changes in the price level the index of consumer effort commanded is too low. In short, the performance of the industry is not as favorable as would seem from the upper section of chart 27.

Turning to the dollar figures the fact must again be noted that the curve for consumer funds absorbed is probably too low. Notice that low as it is it remains on a level with pay rolls, showing that on the whole labor if anything got a smaller proportion of the consumer dollar during the depression than it did previously.

The figures for dividends and interest show an altogether different story. Despite the decline of 17 points in production, for example, between 1926 and 1930, note that dividends and interest rose by more than 50 percent. At no time did dividends and interest get as low as pay rolls and yet between 1934 and 1937 they more than tripled when pay rolls and consumer funds absorbed just barely doubled. In other words, depressed as the construction industry has been, dividends and interest have been maintained relative to pay rolls.

SUMMARY OF PERFORMANCE OF SEGMENTS IN FIRST GROUP

Each of the five segments in the first group have now been discussed individually. The task remains of comparing them with each other; namely, agriculture, manufacturing, mining, transportation, and other public utilities, and construction. In table 3 such a comparison is made, together with a composite ranking.

TABLE 3.—*Industry groups rated for social behavior, 8 criteria, 1919-38*

PART I

Industry group	Production ¹		Employment ¹		Pay rolls ¹		Ratio of employment to production ²	
	Increment	Rank	Increment	Rank	Increment	Rank	Increment	Rank
Agriculture.....	+0.66	2	-0.26	1	-3.03	4	-0.92	2
Manufacturing.....	+ .08	3	- .61	2	-1.50	1	- .69	1
Mining.....	+ .78	1	-1.51	4	-3.21	5	-2.29	6
Transportation and other public utilities.....	- .10	4	-1.43	3	-1.72	2	-1.33	4
Construction.....	-1.45	5	-2.52	5	-2.74	3	-1.07	3

PART II

Industry group	Ratio of production to consumer effort commanded ³		Ratio of pay rolls to consumer funds absorbed ⁴		Ratio of pay rolls to dividends and interest ⁵		Ratio of consumer funds absorbed to dividends and interest ⁶	
	Increment	Rank	Increment	Rank	Increment	Rank	Increment	Rank
Agriculture.....	+2.77	2	-0.01	2	-1.41	1	-1.40	1
Manufacturing.....	- .27	5	-1.12	5	-2.99	3	-1.87	2
Mining.....	+3.30	1	.00	1	-2.70	2	-2.70	3
Transportation and other public utilities.....	+ .10	4	- .63	4	-3.69	5	-3.06	4
Construction.....	+ .84	3	- .02	3	-3.66	4	-3.64	5

PART III

Industry group	Composite rating			
	Cumulation of ranks	Rating	Cumulation of increments	Rating
Agriculture.....	15	1	-3.60	1
Manufacturing.....	22	2, 3	-8.97	3
Mining.....	22	2, 3	-8.33	2
Transportation and other public utilities.....	30	4	-11.86	4
Construction.....	31	5	-14.26	5

¹ Rated on basis of average annual increments.² Rated on basis of employment increment minus production increment.³ Rated on basis of production increment minus consumer funds absorbed, adjusted, increment.⁴ Rated on basis of pay rolls increment minus consumer funds absorbed, unadjusted, increment.⁵ Rated on basis of pay rolls increment minus dividends and interest increment.⁶ Rated on basis of consumer funds absorbed, unadjusted, increment minus dividends and interest increment.

So far as production is concerned the mining industry throughout the period increased its production the most; then agriculture. On the whole, manufacturing increased slowly at the rate of about one-tenth of 1 percent a year. On the other hand, transportation has declined somewhat slowly while the construction industry throughout the period declined at the rate of almost 1½ percent a year.

All the industries show decreases in employment but agriculture the least, with manufacturing running a close second. Notice that in the mining and transportation industries the amount of employment declined by about 1½ percent a year while in the construction industry the declines took place at the rate of 2½ percent a year.

All the industries similarly showed a decline in pay rolls throughout the period, a phenomenon not unexpected when the fact is remembered that on the whole prices declined by nearly 50 percent from 1919 to 1938. Pay rolls held up best of all in manufacturing; then in transportation and other public utilities; while they decreased at a rate in excess of 3 percent a year in agriculture and in mining.

So far as the ratio of men to product is concerned it would seem that in all the industries employment failed to keep up with production. Particularly great seems to have been the increase in the productivity of labor in the mining industry. So far as its relationship to production is concerned, employment held up best on the whole in the manufacturing industry and next best in agriculture. The advances of technology appear to have been particularly rapid in mining and transportation and other public utilities.

No index affords a better comparison of what industry gives as opposed to what it gets than a comparison of production with consumer effort commanded. All of the industries except manufacturing show a tendency to give consumers more value; that is, to give them the same amount of product with less effort. Heading the list of such industries is mining, which tended to increase the amount of product it gave consumers per unit of exchange value by more than 3 percent a year. Agriculture has likewise been "giving consumers a break" at the rate of more than $2\frac{3}{4}$ percent a year. Transportation, etc., likewise has tended to become slightly cheaper. Only the manufacturing industries have by and large commanded increased effort from consumers. In short, manufactured goods have been able to command relatively more of the services of farmers and of miners; that is, of primary products throughout the period. This corroborates the finding which was made by Dr. Frederick C. Mills who, in his book *Economic Tendencies in the United States*, has documented a similar trend for a variety of industries. The position of the manufacturing industries has been steadily improved and that of the primary producers and consumers has grown somewhat worse throughout the period of 1919-38.

One of the most interesting tests is always the extent to which an industry pays out in pay rolls what it collects from consumers. With the exception of mining there was a tendency in all industries to give to pay rolls a smaller percentage of the dollar collected from the public, notably so in manufacturing where the amount of decrease in the percentage of the consumer dollar which went to labor was more than 1 percent a year. In transportation, etc., a similar tendency was prevalent. In mining, agriculture, and construction the proportion of the consumer dollar going to labor remained about the same.

It is, of course, the endeavor of all business to please the stockholders. Table 3 affords two measures of the extent to which industry has endeavored to maintain dividends and interest. Pay rolls have in no case maintained themselves. Even in agriculture the disbursements to labor have been decreasing on the average of nearly $1\frac{1}{2}$ percent a year. In manufacturing and construction dividends and interest are favored over pay rolls to the extent of about 3 percent a year, whereas in the transportation and other public-utility industries the rate is in excess of $3\frac{1}{2}$ percent a year, reflecting in part the success of government regulation especially in the matter of earning a "fair rate of return."

A comparison of the changes that have taken place in the percentage of the consumer dollar paid out in dividends and interest yields a similar result. Agriculture tended to increase the percentage of the consumer dollar going to those who hold mortgages less than any of the segments here discussed. But that increase has been at the rate of nearly $1\frac{1}{2}$ percent a year. Manufacturing comes next, then mining, then transportation, and finally construction. There the percentage of the consumer dollar going to dividends and interest has increased on the average more than $3\frac{1}{2}$ percent a year, an indirect measure of the extent to which interest on mortgages has been held up.

SEGMENTS OF THE ECONOMY IN THE SECOND GROUP

As was indicated at the beginning of this chapter, for some segments of the economy production data are not to be had. As a result the research worker must be content with figures on employment, pay rolls, dividends and interest, and consumer funds absorbed. The charts instead of being divided into two parts will consist of one part of four lines. The segments in this second group are government, finance, service, and trade. They will be discussed in that order.

GOVERNMENT

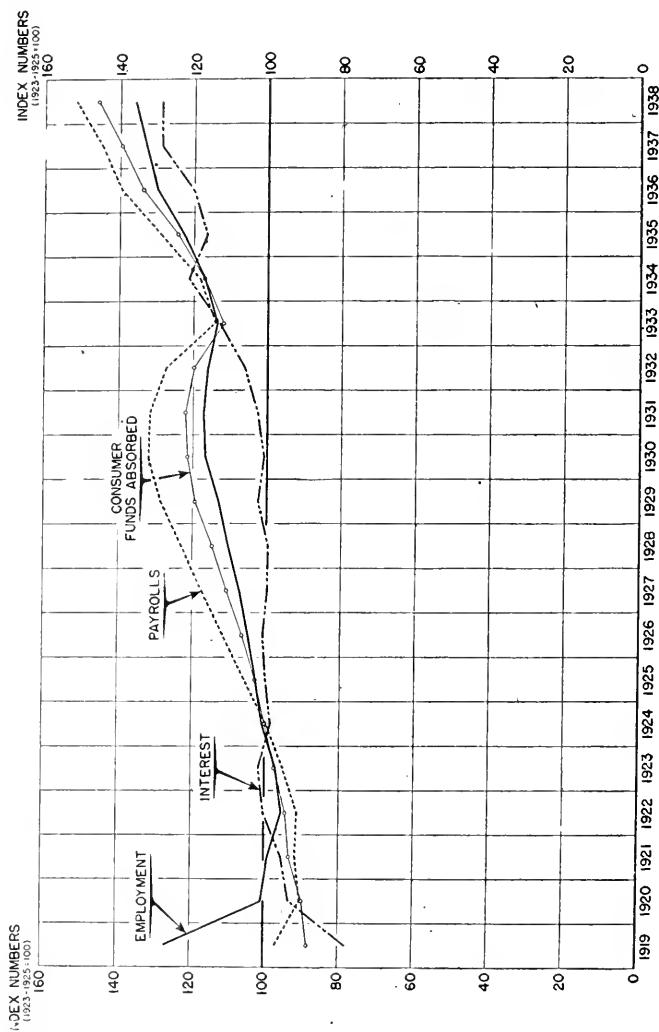
The figures so far as government is concerned are given in chart 28. The outstanding fact there is the tendency for pay rolls to outrun the funds taken from consumers, notably in the period 1924-30 but again in the period 1934-38. Except for the period before 1924 and the period 1933-34 pay rolls have tended to increase faster than employment. This again is particularly true in the twenties and early thirties. In short, the Government has tended to pay out to labor in the form of pay rolls an increasing part of the funds which it takes from consumers. It has also uniformly increased its employment as fast as it has increased its receipts from the public. On the other hand, its payments of interest, except for the period 1920-24 and the year 1934, have consistently been below the indexes for employment, pay rolls, and consumer funds absorbed. The relatively favorable showing of the interest curve is, of course, largely explicable in terms of the steady decline in the rate of interest, together with the fact that the Government does not pay out dividends.

Some further qualifications and explanations of the figures are in order. Notice the relatively steady increase in the curve for consumer funds absorbed. Except for the jog in the thirties the rate of increase throughout the period has been consistent. This might seem highly surprising to some, especially since the figures for consumer funds absorbed include, in addition to taxes, all net borrowings. Many would expect that the figures for Federal, State, and local governments when added together ought to show an increase much greater in the period 1930-40 than in the period 1919-30. Such is not the case.

The reason, of course, is that in the twenties public expenditures were increasing rapidly for roads and schools, largely on the part of State and local governments. In the thirties such expenditures have tapered off while those of the Federal Government have greatly increased.

Furthermore, employment furnished by all governmental units increased at about the same rate in the period 1922-30 as it did in the period 1930-40. This may also be surprising but it is due to the fact that in the twenties increasing numbers of men were hired on construction work, in schools, and in policing the public highways,

CHART 28.
SOCIAL PERFORMANCE OF GOVERNMENT.
UNITED STATES, 1919-1938



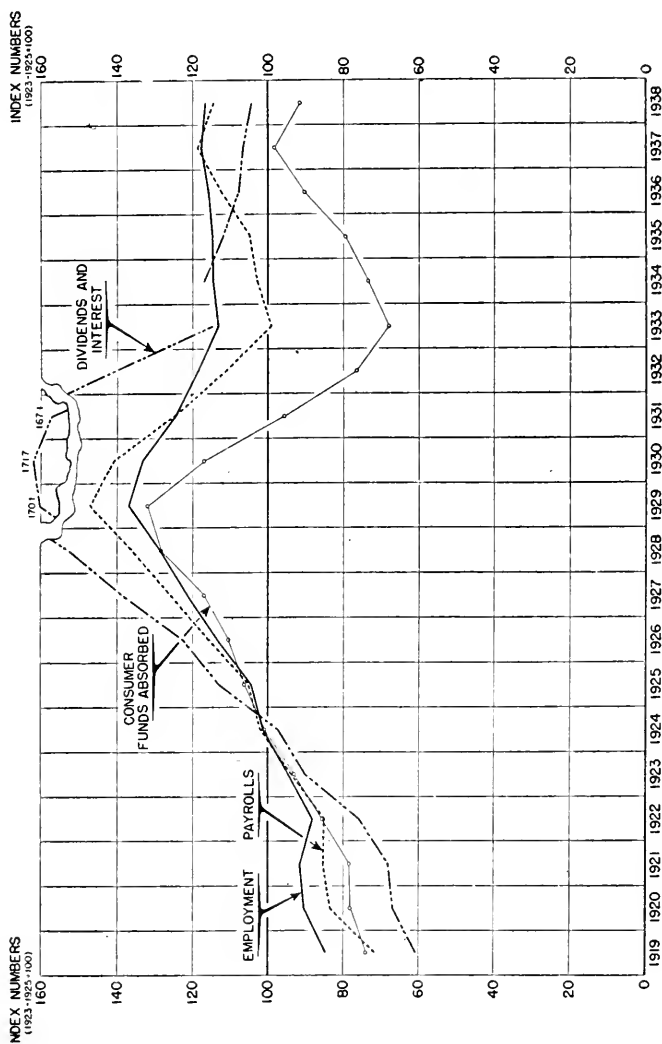
whereas in the thirties the most conspicuous increase has occurred in the personnel of the Federal Government.

FINANCE

None of the charts shows so vividly the great speculative bubble culminating in 1929-30 as does chart 29. The finance industry, which includes not only commercial and other banking activities but

also brokerage houses and building and loan associations, shows the most rapid increase of any industry in the twenties. Dividend and interest payments increased nearly threefold from an index of 60 in 1919 to 172 in 1930. During that same period pay rolls doubled while employment increased slightly more than 50 percent.

CHART 29.
SOCIAL PERFORMANCE OF FINANCE
UNITED STATES, 1919-1938



Peculiar, too, have been the fortunes of the industry since 1929. Dividends and interest have at no time shown a tendency to recover, declining slowly but steadily from 1930 to 1938. A similar decline took place in employment and pay rolls from the period 1929-33. Since 1933 employment has been stable while pay rolls have risen somewhat. Thus since 1936 the index of pay rolls has exceeded that of dividends and interest—almost the only industry so far discussed in which that particular fact is true. Pay rolls have been steadily

maintained above consumer funds absorbed since 1925. So has employment.

Another peculiarity of this industry is that the sum total of consumer funds absorbed is considerably larger both in the base period and subsequently than the sum of pay rolls plus dividends and interest. In the base year consumer funds absorbed amounted to \$6,704,000,000 while pay rolls were \$1,720,000,000 and dividends and interest \$1,581,000,000, which together amount to less than half of consumer funds absorbed. The remainder is comprised for the most part by net rents and royalties, which are a peculiarly important source of income to real-estate and financial concerns. The rapid decline in consumer funds absorbed since 1929 to a level lower than that in 1919 reflects therefore both the decline in speculative activity plus the decline in rents and income from real estate. Also involved in that decline is no doubt a considerable amount of write-down of values both of securities and of real estate which would tend to make the figure for consumer funds absorbed too low. In short, consumer funds absorbed since 1930 have probably been higher than that indicated in the chart.

SERVICE

Under service enterprises is included that wide variety of predominantly small business which is engaged in furnishing personal services of various sorts—barbers, electrical repair shops, various professional groups, and the like. It does not, of course, include education, which belongs under government, nor does it comprise trade or finance. Here likewise the outstanding fact is the enormous rise in dividends and interest from 1919 to 1930, the index in that period going from 40 to 192.

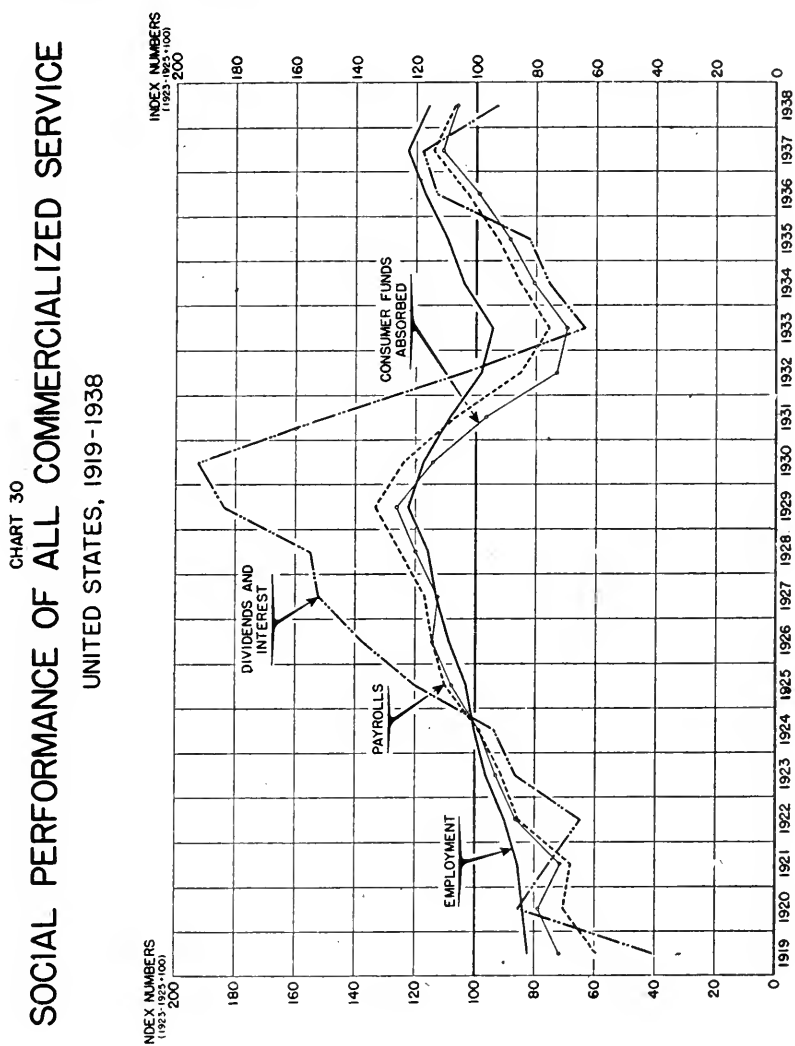
Beginning in 1930 there was a decline more precipitate than that in any other industry and greater than found in any other chart in this series. By 1933 the index had gone down to less than one-third of its 1930 figure. There has been notable improvement since that time though in no case coming close to 1930 levels.

The other indexes show much greater stability. Pay rolls, for example, more than doubled between 1919–29, declined more than one-third during the depression, but regained a level in 1937 equivalent to that in 1926.

Even better is the record of the industry so far as employment is concerned. In 1937 as many persons were employed in service enterprises as were employed in 1929, the largest figure in the 20-year period covered by the chart. The decline in employment was relatively moderate, in fact employment stayed considerably above the consumer funds absorbed indicating that service enterprises kept on their labor despite greatly reduced receipts from the public. Throughout the period from 1926 on, pay rolls have consistently been in excess of consumer funds absorbed showing that of the dollars which the service enterprises collected from the consumer, a relatively larger amount was paid out to labor. On the other hand, in the period from 1933–35 and again in 1938 the index of dividends and interest was not only lower than that for pay rolls but lower than that for consumer funds absorbed.

The service enterprises have operated, in short, in the manner in which the competitive system, according to traditional thinking, ought-

to operate. The entrepreneurs and owners are thought to be the risk bearers. Their returns are supposed to fluctuate much more than the returns to labor. In periods of depression their income should be lower than that of labor. But to compensate for losses during depression they get and deserve higher incomes during periods of prosperity.



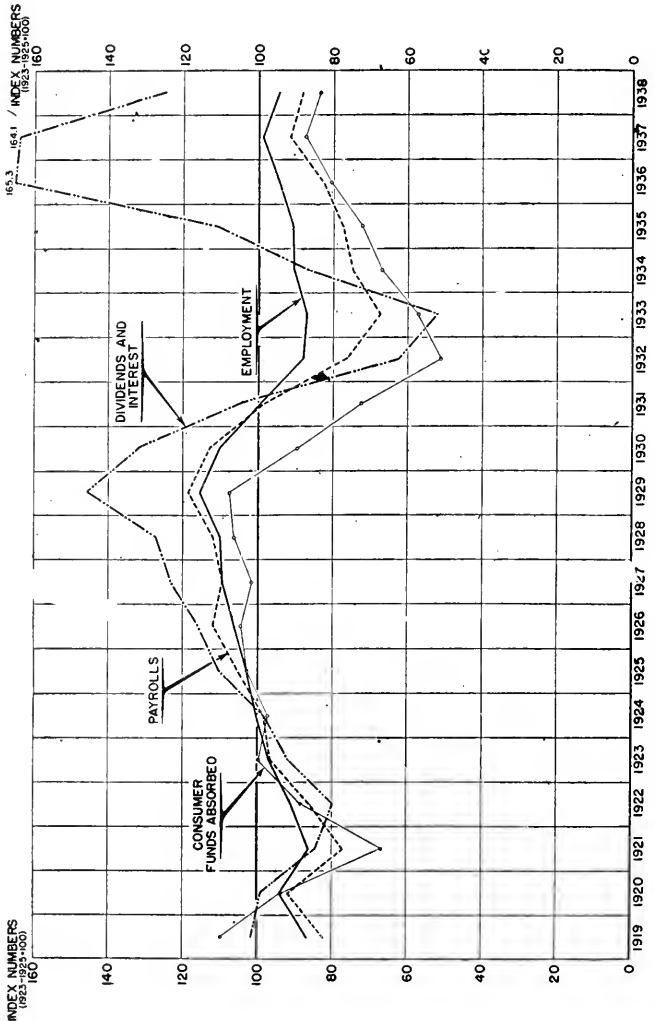
In the service enterprises that is almost exactly what has happened. The dividends and interest curve goes below pay rolls in periods of depression and rises above them in periods of prosperity. This behavior, it should be noted, is completely contrary to that of practically every other industry or segment of the economy, especially manufacturing. There the heavy investment in plant, together with the relatively heavy amount of fixed-income-bearing obligations, caused the managers to utilize every resource to keep up payments to property

during periods of depression. There the risk is shifted to labor. Here it is borne by those who are paid to undertake risk, the proprietors.

TRADE

The segment of the economy comprised by wholesaling and retailing operations commonly called trade is a large one. In the period from 1923-25 this industry employed 4,662,000 persons and paid out in

CHART 31.
SOCIAL PERFORMANCE OF TRADE
UNITED STATES, 1919-1938



wages more than \$7,000,000,000 a year with dividends and interest equal to \$429,000,000. The consumer funds absorbed in wholesaling and retailing are estimated to have been \$10,500,000,000, which is equivalent to nearly one-seventh of the total national income. That which has happened to trade is therefore peculiarly important for the economy.

The salient facts are shown in chart 31. In many respects they are similar to those shown for government, finance, and service. For example, trade shows a considerable rise in dividends and interest, especially in the years 1936 and 1937, in which they reached an all-time high, the index in 1936 being 165 as opposed to 145 in 1929. Dividends and interest were more than double 1922 levels. Notice that the course of pay rolls has been considerably different, not only did they fail to rise as rapidly in the twenties but they failed to recover in the thirties in anything like the proportion with which dividends and interest have recovered.

In the same period, 1922 to 1936, pay rolls increased only 5 percent. But they have nonetheless remained consistently above consumer funds absorbed, at least since 1924. The qualification made in connection with finance needs to be reemphasized, however. For in the distribution trades the figure of income produced as reported by the Department of Commerce is likely to be too low in periods of price decline simply because the readjustments in inventory values; that is, inventory losses, cannot be adequately eliminated. It seems entirely probable, in short, that the percentage of the dollars collected from the public which businessmen in the wholesaling and retailing trades paid out to labor did not increase throughout this period.

Employment has remained relatively steady. There was an increase during the twenties of about 15 percent and a decrease since 1929 from 115 to 90, which means in human terms a disemployment of about 1,200,000 persons. In short, this industry is responsible even at the present time for more than 10 percent of the total unemployment that exists in the United States.

SUMMARY

Nine different segments have now been examined comprising the whole of the American economy. For four of these, those just discussed, the absence of data on production makes possible a comparison of social performance of all the segments in only five ways. These are shown in table 4. The various segments are listed in order of their composite ranking.

The result is surprising and indeed unpalatable, for Government stands at the top of the list. Such a result clearly shows the inadequacy of the few measurements of social performance which have been utilized throughout this study. But that inadequacy, it will be remembered, is due to the absolute lack of data.

The two industries, however, most regulated by Government—namely, finance and transportation and other public utilities—stand in the one case next to the top and in the other next to the bottom of the list. Interestingly enough, finance, which is second, is the industry in which operate such Government agencies as the Securities and Exchange Commission and the Federal Reserve Board, enforcing regulations such as the registration of securities which businessmen have criticized with no little vigor and persistence. Yet in terms of social performance it comes second. On the other hand, Government regulation of the railroads has won wide acceptance by businessmen. Yet in terms of social performance it is the segment with next to the poorest rating. In between come the various other segments with construction definitely at the bottom of the list.

TABLE 4.—*Industry groups rated for social behavior, 5 criteria, 1919-38*

PART I

Industry group	Employment ¹		Pay rolls ¹		Ratio of pay rolls to consumer funds absorbed ²		Ratio of pay rolls to dividends and interest ³	
	Increment	Rank	Increment	Rank	Increment	Rank	Increment	Rank
Government.....	+1.54	2	+2.88	1	+0.27	4	+0.84	1
Finance.....	+1.71	1	+1.71	2	+1.74	1	-0.95	3
Service.....	+1.50	3	+1.35	3	+0.61	3	-0.16	2
Trade.....	+0.03	4	-0.53	4	+0.88	2	-2.29	5
Agriculture.....	-0.26	5	-3.03	8	-0.01	6	-1.41	4
Manufacturing.....	-0.61	6	-1.50	5	-1.12	9	-2.99	7
Mining.....	-1.51	8	-3.21	9	0.00	5	-2.70	6
Transportation and other public utilities.....	-1.43	7	-1.72	6	-0.63	8	-3.69	9
Construction.....	-2.52	9	-2.74	7	-0.02	7	-3.66	8

PART II

Industry group	Ratio of consumer funds absorbed to dividends and interest ⁴		Composite rating			
	Increment	Rank	Cumulation of rank	Rating	Cumulation of increments	Rating
Government.....	+0.67	1	9	1	+6.10	1
Finance.....	-2.69	5	12	2	+1.52	3
Service.....	-0.77	2	13	3	+2.53	2
Trade.....	-3.17	8	23	4	-5.08	4
Agriculture.....	-1.40	3	26	5	-6.11	5
Manufacturing.....	-1.87	4	31	6	-8.09	6
Mining.....	-2.70	6	34	7	-10.12	7
Transportation and other public utilities.....	-3.06	7	37	8	-10.53	8
Construction.....	-3.64	9	40	9	-12.58	9

¹ Rated on basis of average annual increments.² Rated on basis of average annual increment for pay rolls minus average annual increment for consumer funds absorbed, unadjusted.³ Rated on basis of average annual increment for pay rolls minus average annual increment for dividends and interest.⁴ Rated on basis of average annual increment for consumer funds absorbed, unadjusted, minus average annual increment for dividends and interest.

Turning to the separate criteria, note that employment has increased on the average throughout the period only in the top four or group B segments, namely, Government, finance, service, and trade. The greatest increase of all has occurred in finance, next in Government. The largest decrease has occurred in construction. There may be some who do not think that it is the function of industry to provide employment, but if it is then finance viewed as a business has shown in the period from 1919 to 1938 the largest annual increase in employment with Government and service coming next. Transportation, mining, and construction have the worst record. Those are the segments which have made the largest contribution to the army of unemployed, and insofar as unemployment is a social problem they have the major responsibility.

The second criterion is based on the assumption, as has been said before, that it is the function of business to meet pay rolls. The industries are ranked in accordance with relative increases in the pay rolls disbursed by them. On that basis Government comes first. It has increased disbursements to personnel the most, thus tending to

corroborate the well-known allegation, made particularly by politicians out of office, that the politicians in office are zealous in creating "fat jobs." Throughout this period Government has increased pay rolls on the average of 3 percent a year. Finance and service come next. All the other industries have decreased their pay rolls, notably agriculture and mining. In these enterprises pay rolls have declined on the average more than 3 percent a year. These industries are therefore placed at the bottom of the list. If all industry had thus restricted pay rolls, markets would have been further restricted. The depression would have been more severe. It is Government, finance, and service enterprise that have maintained mass purchasing power.

The third criterion measures the percent of the consumer dollar absorbed which goes to pay rolls. Those which increase the percentage going to pay rolls are regarded as exhibiting superior performance to those which disbursed less and less of the consumer dollar in the form of pay rolls. The leader here is finance, then trade, then service, with Government ranking in fourth place. Yet in all of these the percentage of consumer funds absorbed going to pay rolls has increased. Manufacturing is at the bottom of the list. It has spent less and less for labor of the dollar which it collects from the public in its sales. In fact the average annual decrease is in excess of 1 percent. Transportation comes a close second. In the other segments there was substantially no change.

As has been often stated, payments going to pay rolls maintain mass purchasing power while those going to dividends and interest in the main fail to become purchasing power unless invested. In a decade characterized by capital saving innovation of an extensive sort the need for capital equipment in terms of money has tended to become less urgent because to replace the old equipment a more efficient machine can often be purchased for less money.

Particularly in the thirties the maintenance of pay rolls has been vital to the maintenance of purchasing power. Industries, therefore, which increased their pay rolls relative to dividends and interest aided the economy to operate at expanded levels of activity. Those which restricted the flow of income to wage earners on the whole have tended to contribute to the problem of idle money.

Interesting is the fact that only Government has increased its pay rolls relative to dividends and interest. In all the other segments of the economy dividends and interest have been maintained at higher levels than pay rolls. This, of course, is to be expected. Managers are keenly aware of their responsibilities to bondholders and stockholders. Pay rolls are regarded as an item of expense, an item to be kept down. Dividends are regarded as an item showing the profitability and success of the enterprise. Managers in their annual reports to stockholders take pride in showing that they have maintained or increased dividends. They also take justifiable pride in pointing out as evidence of their efficiency the many ways in which they have been able to cut down their expenses of production, including their labor costs.

The success with which they have been able to cut their expenditures for labor as opposed to the flow of dividends and interest is shown by the increasing spread between the lines representing pay rolls and those showing dividends and interest. That spread is greatest for transportation and other public utilities where managerial

efforts to maintain interest payments have been backed by the pronouncements of regulating commissions and the courts. Construction is next to the bottom. Service enterprises are next to the top, the others have an intermediary position.

The fifth criterion of social performance which can be applied to the nine segments of economic activity shown in table 4 is that which compares the percentage of the consumer dollar going to dividends and interest. If dividends and interest through the 20-year period take an increased percentage of the consumer dollar obviously the social performance of the industry vis-à-vis the public is that much worse. On the other hand, if for every dollar it collects from the public it pays out smaller amounts for dividends and interest, by that much it tends to favor and benefit the public.

Interestingly enough, the only segment of economic activity which paid out smaller proportions as interest is Government. This, of course, is in large part illusory because Government gets no return at all, whereas obviously for the rest of the economy dividends and interest represent returns to the entire proprietorship account. The fact should be noted that finance and agriculture show the best results. They have tended to give the consumers the greatest values and to receive the smallest compensation in return. On the other hand, construction is at the bottom of the list. It is in the housing and construction field that interest returns have been best maintained; then in the small business mortgage field, and then in transportation and other public utilities.

There are no statistics which will permit further tests to be made. Such further tests would undoubtedly change the ranking of the individual segments. In terms of production agriculture and mining would rank well in the lead. In terms of consumer effort commanded the ranking of the Government would certainly be unfavorable for not only have taxes increased but the consumer effort necessary to secure the dollars wherewith to pay the taxes has also increased.

There are, moreover, a number of other tests that would have to be applied in any thoroughgoing evaluation of the social performance of these segments in the national economy. Various industries, for example, exist because of a protective tariff. In the sugar industry the cost to consumers runs around \$300,000,000 a year, a cost which by being levied on the budgets of the working classes tends to be incurred by those least able to bear it irrespective of what the performance of the sugar industry throughout this period might have been; that is, irrespective of the increase in pay rolls that might have taken place, or increase in employment, or increase in production. So long as only a part of the whole domestic supply of sugar is obtained from domestic sources the loss to consumers through paying higher prices for their whole consumption may be such as to offset all the other favorable factors.

This leads further to the observation that in ranking various segments of the economy all the measurements have been weighted equally. An increase in employment has been regarded as not more important than an increase in pay rolls or a decrease in the percentage of consumer funds absorbed that is spent for dividends and interest. Obviously, however, dividends and interest are a relatively small item, only from one-fifth to one-sixth as large as pay rolls. An industry

which ranked first in pay rolls and last so far as dividends and interest are concerned would have an aggregate ranking equal to that which ranked last in pay rolls and first so far as dividends and interest are concerned, yet obviously socially the effect of not maintaining pay rolls is far more important to the economy than that of keeping down dividends and interest payments.

Greatest emphasis therefore should be placed on employment, production, and pay rolls. For the nine segments here discussed employment and pay rolls are the only ones available. Notice that if the industries are ranked on the basis of these two tests alone the ranking differs but little from that based on all five criteria, the first four remaining in that order with manufacturing coming ahead of agriculture, and mining shifting to the bottom of the list.

One further observation is required. The method of ranking the industries tends to give equal weight to unequal differences. Thus Government ranks second although the annual increment of employment is 0.19 percent lower than finance, whereas service ranks third although the increment employment is only 0.04 percent lower. Again, trade ranks fourth although the increment of employment is 1.47 percent. All these individual differences tend to be given equal weights, but a test cumulating the increments as such brings but little change in the relative order of the nine segments. Government, finance, service, and trade are still at the top, and mining, transportation, and construction are still at the bottom of the list.

CHAPTER IV

SOCIAL PERFORMANCE OF INDIVIDUAL COMPANIES

In this chapter the briefest sort of test will be made of the results which are obtained when the criteria utilized in the preceding chapters are applied to the operations of individual companies. Only three such companies are given here.

The reason for this is twofold. In the first place, the making of an adequate study of individual businesses even when done on the basis of a representative sample is completely beyond the scope and the funds of this inquiry. For the sample study would have to be multiple in character, with an adequate number in it of each type of business whether corporation, partnership, or individual enterprise; of each size of enterprise, large, medium, and small; for each branch of industry. Figures would have to be assembled for literally hundreds of businesses.

But in the second place, there is a sheer lack of statistics, even of so fragmentary a character as have been pieced together in the preceding chapters, except for a handful of American corporations. This is particularly true of figures for employment and production and pay rolls. These figures are rarely published by individual companies and are, of course, never revealed in censuses or other governmental surveys. Even those issuing financial reports to the stock exchange usually give only financial data such as gross and net sales, taxes, dividends, earnings, and fixed and working capital, in short, the items which appear on the ordinary balance sheet and profit-and-loss statement.

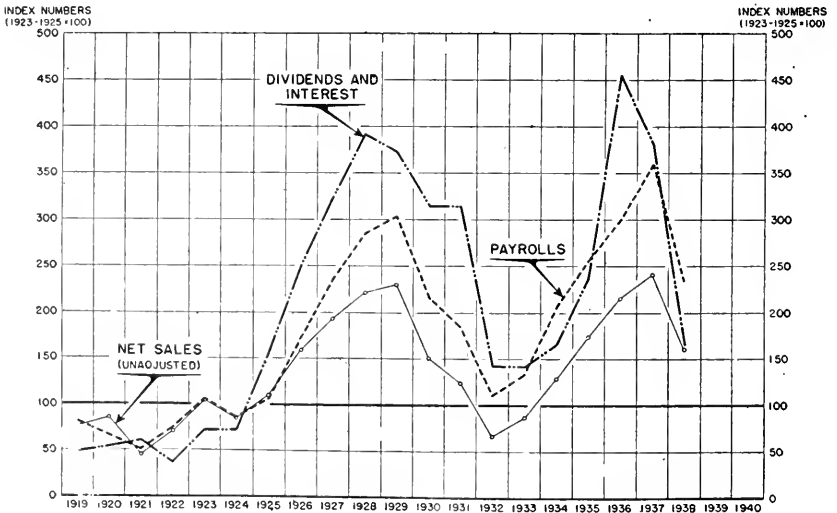
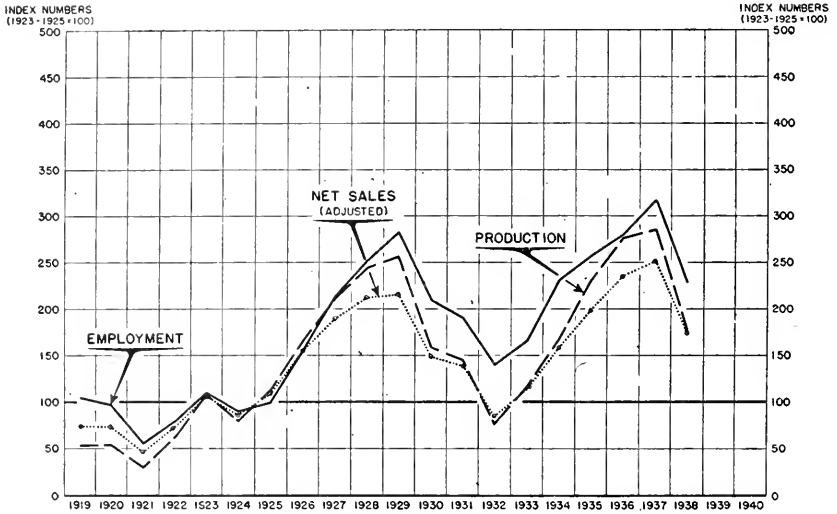
Thus, only three businesses are examined in this chapter. But they are three of the largest corporations now doing business in the United States, namely, General Motors, the United States Steel Corporation, and the American Telephone & Telegraph Co.

GENERAL MOTORS

The story so far as General Motors is concerned is epitomized in chart 32. Outstanding in the chart is, of course, the steepness of the decline from 1929-32 paralleled by an equally steep recovery from 1932-37 to new heights both of production and of employment. In the General Motors Corporation employment has increased faster than production. Particularly evident is the policy of the corporation to spread the work and maintain employment in slack periods, noticeably so in 1932. On the whole, consumer effort commanded has remained below the level of production.

The production figures in the last 10 years are not strictly comparable with the earlier period. In the first place, as is well known, the type of car produced in the thirties has changed considerably from that produced in the twenties. The automobile of 1939 has many accessories and conveniences that were completely unknown in 1926. It is

CHART 32.
**SOCIAL PERFORMANCE OF THE
 GENERAL MOTORS CORPORATION**
 UNITED STATES, 1919-1938



a superior product. On the other hand, there has also been a tendency for consumers to concentrate their purchases in the low-price-car field in recent years. They have been buying Chevrolets instead of Cadillacs. Thus the production curve tends to be somewhat high, and the curve representing net sales tends to lag behind.

The steep increase both in dividends and interest and in pay rolls in the period from 1924-28 is matched only by an even more steep increase in the period from 1933-36. On the whole, dividends and interest and pay rolls have kept pace with each other.

The index of net sales is not the same as the figure for consumer funds absorbed which was used in previous charts. There is simply no public information on the expenditures for raw materials, power, etc., which have been incurred by the General Motors Corporation throughout the period. It seems entirely possible, if not probable, that the curve of net sales shows considerably less fluctuation than would a curve representing the net amount which the General Motors Corporation collected from the public, representing the sum available for disbursement to labor and owners' ip. Many of the raw materials in the thirties declined markedly in price. It is entirely probable that the percentage going for raw materials, power, etc., has declined.

But in the absence of figures such statements represent only guesses. Suffice it to say insofar as net sales do represent consumer funds absorbed the industry seems to have paid out an increasing percentage of the dollar it collects from the public in dividends and interest and in pay rolls.

UNITED STATES STEEL CORPORATION

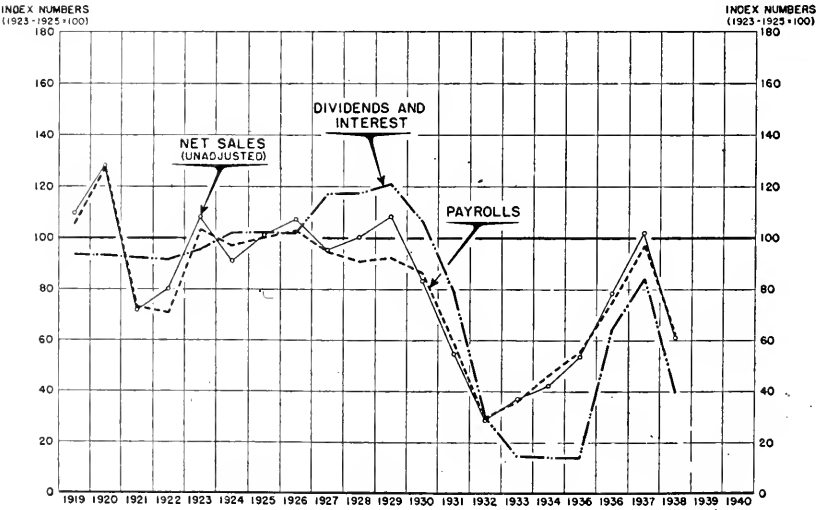
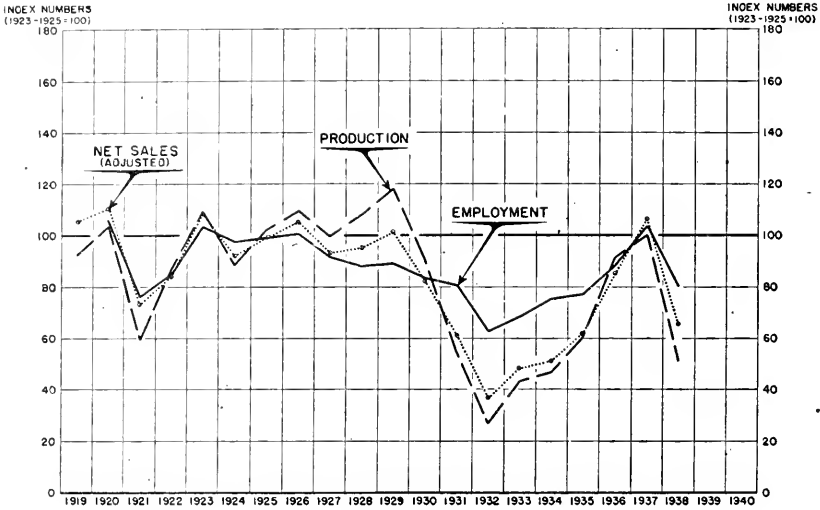
The experience of the United States Steel Corporation has received a great deal of discussion. A notable hearing was conducted by the Temporary National Economic Committee concerning price policies in the steel industry. Incident to that discussion there was brought into evidence some of the first figures available on such items as employment, pay rolls, and the like.

Unfortunately, while the hearings were extensive, nowhere was a sufficient analysis made of the components of cost to be able to answer with any degree of accuracy the question concerning the amount of consumer funds which the corporation was able to collect net from the public. Here, too, one must perforce rest content with figures on net sales.

Evidence presented at the hearing indicated that pay rolls constituted about the same percentage of the consumer dollar in 1937 as in 1929. Therefore the utilization of the figure for net sales is not seriously inaccurate.

In chart 33 is shown the extraordinary depth to which production and sales fell in the year 1932. In this industry not only has the trend of employment been downward but man-hours declined even more. The industry shifted from a 48-hour to a 40-hour basis between 1929 and 1937. At no time did the corporation employ as many persons as it did in 1920. On the other hand, ingot production reached an all time high level in 1929, recovering in 1937 only to the level that existed in 1927. Throughout employment has been more stable than production, indicating the extent to which the corporation has tried to soften the impact upon laborers of the violent fluctuations in its output.

CHART 33
SOCIAL PERFORMANCE OF U.S. STEEL CORPORATION AND SUBSIDIARIES
UNITED STATES, 1919-1938



Equally striking is the extraordinary decline in pay rolls and dividends and interest during the early thirties. No industry, as a matter of fact, shows a decline in dividends and interest which is equal to that of the Steel Corporation between 1929 and 1933 when the index fell from 120.7 to 14.4. This decline is considerably greater than that which occurred in pay rolls or in net sales. In short, the stockholders in the United States Steel Corporation have borne the impact of depression in steel even more than the laborers, constituting in that regard an outstanding exception to the reverse tendency shown in preceding chapters to characterize most of business.

All three dollar indexes—pay rolls, dividends and interest, and sales—have tended downward. Pay rolls, for example, never attained the levels that they reached in 1920, even in 1929 being one-fourth lower. In terms of production the level in 1937 was about equal to that in 1927, dollars collected from the public were more than 6 percent higher, pay rolls were less than 3 percent higher, but dividends and interest was about a third lower.

Most striking is the fact that the index representing funds collected from consumers when adjusted for changes in the general price level remained consistently below the index of production from 1925–30, since which time it has been consistently above except in the year 1936. At no time, however, has the gap between consumer effort commanded and production been larger relatively than in 1938.

In short, the price policy of the corporation has been such, particularly in 1937 and 1938, as to take from consumers more in exchange per unit of output than in any previous year in the 20-year period here covered. Stated in another way, despite all the phenomenal improvements in technology in the steel industry, the effort required by consumers to get hold of a unit of steel is greater at the end of this period than at any other time during the period.

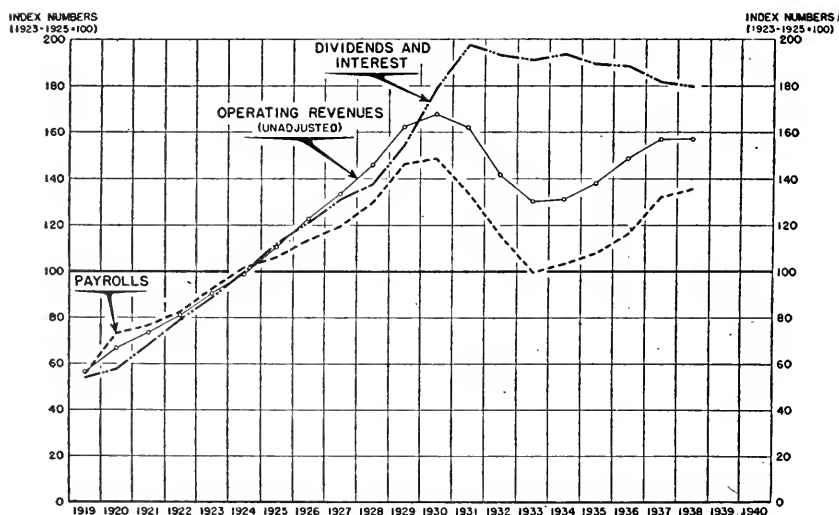
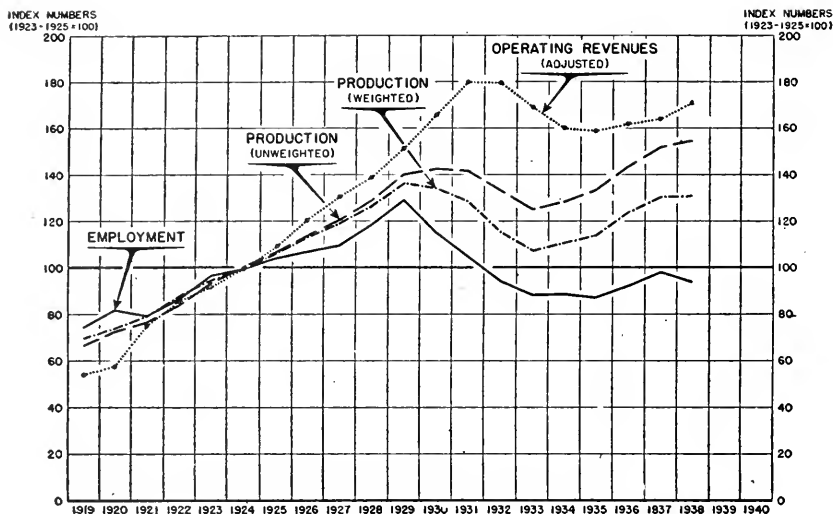
In 1929 steel was relatively cheap, the index of production being 117.8 while the index of consumer effort commanded was only 100.9. The situation in 1937 is strikingly different. Now it is the index of effort commanded which is higher, being 105.8, while the index of production is 99.8. In short, the exchange value of steel had increased. It was dearer. This relative dearth of steel throughout the thirties undoubtedly had some influence upon purchases, for it is a natural tendency to buy less of anything which is relatively expensive.

THE AMERICAN TELEPHONE & TELEGRAPH CO.

The third company to be tested is the American Telephone & Telegraph Co., one of the largest in the world. The essential facts are shown in chart 34.

This company, as is well known, is one which collects its income in small amounts monthly from millions of customers. It operates on the assumption that these millions of customers will have funds each month to pay for their small telephone bills. In short, the company taps the incomes of millions of persons. Its operations depend upon the maintenance of these millions of streams of income in something like undiminished volume. Any serious redistribution of income tending to diminish the incomes of persons using telephones is likely seriously to restrict the operations of the company. What the com-

CHART 34.
**SOCIAL PERFORMANCE OF THE
 BELL SYSTEM**
 UNITED STATES, 1919-1938



pany does to the distribution of the income stream is therefore of singular interest.

The experience of this corporation also is interesting because it has pioneered and put into operation one of the greatest technical innovations of modern times, notably the substitution of the dial for the hand telephone. The facts pictured in chart 34 are therefore singularly important.

Looking at the top portion of the chart, notice that the line showing consumer funds absorbed has shifted from a position below that of production to one consistently above production, notably in the years 1931 and 1932. No matter whether one calculates the production on a weighted or unweighted basis the company has steadily given less of its service per unit of consumer sacrifice. The exchange value of its service has steadily increased. Telephone service has steadily become more dear in terms of human effort.

At the same time the company, since 1929, has accounted for more than 75,000 of the present eight or nine millions of unemployed. While the production index showing average daily conversations reached an all time high in 1938 of 154.6, a figure 10 percent above that in 1929, employment is more than 25 percent lower. In short, decreased opportunities have been given to human beings to utilize their capacities and skills. This, of course, is largely to be explained by the introduction of the dial telephone which supplanted not the highly skilled and highly paid workers, but precisely the lowest paid among the employees of the American Telephone & Telegraph Co., that is, the telephone girls, a large proportion getting less than \$1,000 a year. These have been compelled to go elsewhere and in the absence of job opportunities now crowd the relief rolls and the Work Projects Administration.

In the bottom portion of the chart the outstanding fact is the singular success achieved by the directors of the American Telephone & Telegraph Co. in maintaining dividends and interest, which have not only increased faster than pay rolls but kept increasing right through 1931 when they were more than 25 percent in excess of 1929. Since 1931 they have declined but slightly, being even in 1938 more than 16 percent above 1929 levels. Dividends and interest, in short, have been maintained since 1930 far above the level of operating revenues and pay rolls. Indeed, in 1933, the percentage going to dividends and interest was nearly double what it had been 10 years earlier in 1923. Had the figure in the depression year of 1933 only been as much as it was relatively in 1923, a year of prosperity, the index of dividends and interest instead of being 190.8 would have been slightly less than half that figure. In short, the directors have done a heroic job of maintaining dividends and interest.

Naturally, pay rolls have not enjoyed any such fortunate experience. While reaching an all-time high in 1930 they declined more than one-third by 1933 and have never reached 1930 levels since. In fact, they have not kept pace with the dollars which the company has collected from the public. Since 1925 the index of pay rolls has steadily lagged behind the index of dollars which the company collected from the pockets of the public.

But the operations of the company assume that millions of householders will each month have the necessary small sums to pay their telephone bills. Yet it disburses its funds in a manner such as to

make the number of householders with small incomes steadily less. What in effect is happening to the stream of income here is that the company acts as a funnel or channel disbursing larger proportions of it to those whose income is already high, namely, those who own stock. It is steadily disbursing relatively less to those who depend for an income upon selling their labor.

To this a superficial objection is frequently made. The fact is pointed out that in the American Telephone & Telegraph Co. there are more than 600,000 stockholders. These are represented as, for the most part, elderly women with beatific faces knitting sweaters for their grandchildren, existing on a small dividend from the company. No one of them, it is said, owns as much as 1 percent, a truly noteworthy fact even though a 1 percent ownership of a \$2,500,000,000 corporation amounts to an investment of nearly \$25,000,000.

But such statements assume that stock ownership is distributed equally. Actually, 382,000, or more than 60 percent of the stockholders own less than 10 percent of the stock, while a mere 5 percent of the stockholders, 33,498 to be exact, own more than half the company.¹ It is they who receive more than half the benefits of the policy of maintaining dividends and interest. It is to them that income is being diverted. It is they who are piling up idle money in the banks.

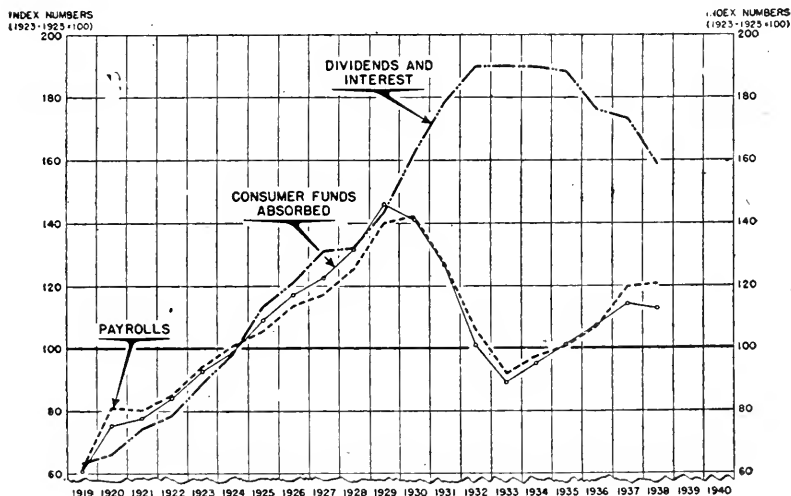
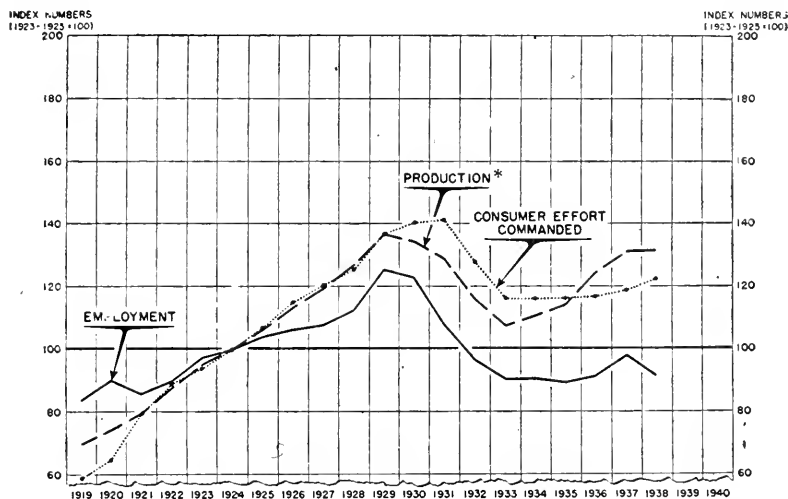
In short, in chart 34 the pattern of social performance is one of unemployment, of economic disenfranchisement precisely of the most needy, of nontransference to the public of the benefits of technology, and of keeping on a high level the payments to those already in the high-income brackets. Unless somewhere in the economy there were compensation for the type of effect which the American Telephone & Telegraph Co. has had on purchasing power and employment the total volume of unemployed in the United States instead of being 9,500,000 at the end of 1939 would be 19,000,000, that is, half of the population available for nonagricultural employment would be out of jobs. The total amount of idle funds would be roughly double the present amount. Judged in terms of social performance the American Telephone & Telegraph Co. does not measure up as well as the other two companies nor as well as most of the industries studied in the preceding chapters.

In order to compare the behavior of a company with that of the industry as a whole, figures are shown in chart 35 for the telephone and telegraph industry. On a priori grounds one might expect the largest concern in an industry to make better adjustments than those less well fortified with business genius and funds. Inasmuch as the telephone company accounts for more than 80 percent of the total business, one would logically expect the figures for the industry to be worse than those for the company. Though one would expect the major trends to be similar, whatever difference appears would be expected to be in favor of the company. Such, however, proves surprisingly enough not to be the case.

The upper portion of the chart shows that employment has lagged behind production, being in 1938 one-fourth lower than it was in 1929. Furthermore, the amount of consumer effort commanded instead of being consistently above production has been below production since

¹ For a complete analysis see N. R. Danielian A. T. and T., *The Story of Industrial Conquest* (New York: 1939), p. 176.

CHART 35.
**SOCIAL PERFORMANCE OF THE TELEPHONE
 AND TELEGRAPH INDUSTRY**
 UNITED STATES, 1919-1938



1935. This, of course, is in direct contrast to the experience of the American Telephone & Telegraph Co. in which the amount of consumer effort commanded remained consistently above production from 1925 on, the spread being particularly large in the period from 1931-36 and only decreasing in recent years. Yet in 1938 the index of consumer effort commanded was 170.9 or nearly 40 points above that of the weighted index of production, 131, and 26.3 points above the unweighted index of 154.6. This should be contrasted with the industry as a whole in which the index of consumer effort commanded was at a level of 122.1, or some 9 points below the weighted index of production, and 22.5 points below the unweighted index.

The dollar figures show similar differences. To be sure, dividends and interest remained considerably above pay rolls and consumer funds absorbed. Moreover, they reached their all-time high level for the industry as a whole in 1933. The company reduced dividends and interest before the industry did. On the other hand, the decline in the last few years has been much more rapid. Particularly rapid has been the decline in consumer funds absorbed showing a considerable contrast to the course of net operating revenues for the company. In 1938, for example, the index for the American Telephone & Telegraph Co. is 157.2, while for the industry as a whole it is 112.3, or some 40 percent lower. Pay rolls are likewise lower, while in the industry as a whole they kept pace with that of the company until 1930 when the decline was greater for the industry as a whole. Recovery has not been as rapid. The index of pay rolls in 1938 for the industry, for example, is 120.7 as compared with 135.7 for the Bell System.

In brief, the contrast between the company and the industry can be summarized as follows: The company has done a much better job of maintaining dividends and interest. It has also maintained pay rolls at levels from 10 to 15 percent better than the industry. On the other hand, it has likewise maintained its collections from the public on a much higher level. Consistently since 1925 it has increased the funds absorbed from its customers faster than has the industry. In the period 1930-33 the operating revenues of the company declined from 167.5 to 130, or less than 20 percent, while income produced by the industry declined from 141.2 to 89.2, more than 30 percent. Between 1933 and 1938 the company has increased its tolls upon consumers from 130 to 157.2, or 27 points, while the industry has increased its tolls from 89.2 to 112.3, or 23.1 points.

Finally, since 1930 the index of employment for the industry as a whole has pretty consistently remained above the index of employment for the company. This probably means that the industry as a whole has not introduced mechanization as rapidly as has the American Telephone & Telegraph Co.

CONCLUSION

As was indicated above, statistics are not available nor are data at hand for applying the social performance tests to other companies. What would be shown is hard to conjecture. Whether the large organizations would lead the performance of the industry as does General Motors or whether they would lag behind the performance of the industry as do the performances of United States Steel and the

American Telephone & Telegraph Co. is impossible to state. Suffice it to say that the record for individual companies is likely to be as varied within a particular industry as the record of individual industries.

It seems also entirely likely that the record for the same company in its various departments and particularly in various regions might show a variation fully as great as that shown above between the various industries. The American Telephone & Telegraph Co., for example, operates in all the States of the Union under different regulatory commissions with personnel of different efficiency and operating problems of different technical and economic complication. Were the figures available there is no doubt that in certain areas or in certain States performance of the company might be even the inverse of that shown above.

In brief, the record above, by grouping together all the operations of the company, comes as a result which is only true of the aggregate. But the method is capable of application to operations within the confines even of a single State. The social performance of individual companies is no less measurable than that of entire industries or segments of the economy.

CHAPTER V

ALL CORPORATIONS

The social performance tests that have been applied in the preceding chapters to individual companies, industries, and segments of the economy, will now be applied to a particular though most important type of business organization, the corporation. Corporate enterprise in many respects forms a distinct segment of the economy, though by no means the whole of it. For corporate enterprise, as will be elaborated upon in chapter VII, is compelled by the very process of incorporation to behave in different fashion from the farmer or individual enterpriser. When prices go down the "dirt" farmer keeps working, the service entrepreneur keeps striving for self-employment, the owner-operator keeps going—unless, of course, more desirable or less unprofitable opportunities appear elsewhere. The individual enterpriser cannot cut expenses by throwing himself out of work. So he keeps on producing. But the corporation ordinarily cuts down operations as soon as its books show that it is no longer earning a satisfactory profit. It cuts down production because that is the easiest way to cut expenses. This central difference gives the economic behavior of corporations unusual importance and interest, an importance warranting a separate discussion of them in this chapter.

The behavior of corporations should not be regarded as identical with that of business as a whole. For a great deal of business enterprise is unincorporated, notably in agriculture, in the service trades, and in distribution. Even many small manufacturing plants and some not so small financial houses are partnerships rather than corporations. Figures applying to corporations therefore cannot be taken to represent the experience of business as a whole for it is quite clear that unincorporated enterprise, even in the fields in which corporations do a large section of the business, does not have the same problems, nor does it do business in the same way, nor does it go through the same experiences as does incorporated enterprise.

But corporations constitute so large a share of modern enterprise¹ and so completely dominate manufacturing, transportation, public utilities, and mining that even fragmentary data are of major interest.

MANUFACTURING CORPORATIONS

How sketchy the information is appears clearly in table 5. It gives only dollar figures, those customarily available in balance sheets and profits-and-loss statements. But it constitutes an unusually readable summary of the data on hand for all manufacturing corporations. The item "Balance remaining for employees, management, and stockholders" is not the same as consumer funds absorbed for it does not include interest paid. Interest is regarded as a cost rather than a return.

¹ See Investigation of Concentration of Economic Power, Hearings before the Temporary National Economic Committee, vol. 1, *Prologue*, exhibit No. 55, p. 65.

TABLE 5.—Consolidated operating statement, all manufacturing corporations; 1929 and 1937 ¹

Items	1929		1937		Percent change 1937 against 1929
	Millions of dollars	Per- cent	Millions of dollars	Per- cent	
INCOME					
Gross sales; we sold during the year goods valued at.....	69,236	95.9	60,244	96.5	-13.0
Dividends from investments; we received dividends from other corporations amounting to.....	588	.8	617	1.0	+5.8
Other income; and interest, rents, and other income.....	2,405	3.3	1,596	2.5	-33.6
Total income; our total revenue was.....	72,224	100.0	62,457	100.0	-13.5
DISBURSEMENTS					
Goods and services purchased; we paid others for materials, fuel, transportation, etc.....	49,879	69.0	43,540	69.7	-12.7
Depreciation and depletion; wear and usage of our facilities cost us.....	2,018	2.8	1,592	2.5	-21.1
Provision for bad debts; we had to deduct for bad debts.....	267	.4	185	.3	-30.7
Interest and rent paid; the use of borrowed money and leased property cost us.....	141	1.6	670	1.1	-41.3
Taxes; local, State, and Federal tax collectors took.....	1,161	1.6	2,059	3.3	+77.3
Balance remaining for employees, manage- ment, and stockholders.....	17,759	24.6	14,411	23.1	-18.9
Wages and salaries; of this balance, we paid our employees.....	12,050	67.9	10,338	71.1	-14.2
Administrative expenses; management received for its services.....	1,172	6.6	1,004	7.0	-14.3
Net earnings; balance remaining for stockholders.....	4,537	25.5	3,069	21.3	-32.4
Cash dividends paid; we paid our stockholders.....	3,159	-----	2,954	-----	-6.5
Surplus for the year; which left for future needs.....	1,378	-----	115	-----	-91.7

¹ The number of corporations included was as follows: In 1929, 456,021; in 1937, 477,838.

Source: Compiled by the Conference Board from official data, and taken from the Conference Board Economic Record, May 22, 1940, p. 216.

The Conference Board lumps together wages and salaries, but does not lump together dividends and interest, even though bondholders in effect are really privileged proprietors, their holdings sometimes being fully convertible into stock in ordinary times, and almost always in part dissolving into stockholdings in event of bankruptcy. The legal distinction hardly constitutes an economic difference of sufficient magnitude for the purposes of this study to warrant separate treatment.

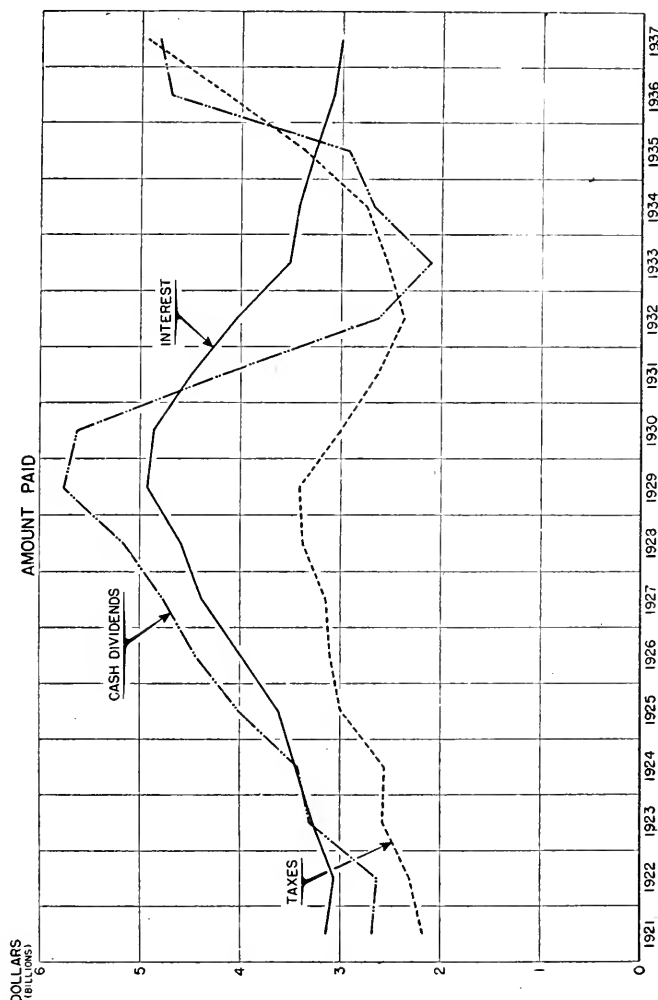
Other items in this operating statement require little explanation. Outstanding is the fact that the gross sales of manufacturing corporations were in 1937 more than a third of the gross sales of business as a whole, \$60,200,000,000 as opposed to \$174,600,000,000. Secondly, the net amount of consumer funds absorbed is considerably less than a third and only slightly more than a fourth of gross intake, the "balance remaining for employees, management, and stockholders" plus "interest and rent paid" being in 1937 \$15,080,000,000. Of this amount labor got two-thirds and owners and managers one-third. Particularly noteworthy is the enormous increase in taxes paid in 1937 over 1929 compared with a percentage decline of dividends and interest nearly three times as great as that of pay rolls or administrative expenses.

ALL CORPORATIONS

In this regard the experience of manufacturing corporations differs somewhat from that of all corporations. (See chart 36.) Their taxes

in 1937 increased slightly more than 40 percent over 1929, about \$800,000,000 of it in 1937 due in part to the social-security tax. Cash dividends show less than a 15 percent decline. Interest payments rose about 60 percent between 1922 and 1929 only to lose all of that gain by 1936. In other words, the burden of corporate indebtedness declined by nearly a million dollars a day from 1930 to 1936. This

CHART 36.
DIVIDENDS, INTEREST AND TAXES, ALL CORPORATIONS
UNITED STATES, 1921-1936



indicates the extraordinary manner in which business was paying off its bonds and refinancing its existing bonds at lower rates of interest.

As was noted above, the other series show increases. Taxes increased by more than 50 percent between 1921 and 1929; then they declined until 1932 but rose thereafter to reach in 1937 an all-time high level, more than 40 percent in excess of any preexisting level.

Particularly wide is the fluctuation in dividends paid. Between 1922 and 1929 they more than double. In 1923 they were lower than any year in the period here covered. By 1937 they had more than

doubled again to a level substantially equal to that of 1927 and larger than that in any other year with the sole exception of the years 1928, 1929, and 1930.

ALL BUSINESS

The record of all corporations differs in many important respects from that for business as a whole. This is particularly evident from a comparison of table 6 with table 5. Both were compiled by the same agency, give data for the same year, 1937, published at the same time, May 22, 1940, in the Conference Board Economic Record. While the manner of compilation is not in all respects identical, some of the headings are completely comparable.

TABLE 6.—*Consolidated operating statement, all privately owned business, 1937*¹

[Billions of dollars]

Item	Private		
	Receipts	Expenditures	Balance
Income:			
Gross sales.....	174.6		
Gross profit from other operations.....			20.4
Total other income.....	4.9		
Total income.....	199.9		
Disbursements:			
Cost of sales.....		134.9	
Depreciation and depletion.....		4.6	
Provision for bad debts.....		.8	
Interest and rent paid.....		9.8	
Taxes.....		5.1	
Other expenditures.....		29.6	
Total disbursements.....		184.8	
Net profit.....			15.1
Dividends.....		5.7	
Entrepreneurial withdrawals.....		9.9	
Total.....			15.6
Deficit.....			.5

¹ Compiled from table 5, p. 214. National Balance Sheets and Operating Statements 1936-37, National Industrial Conference Board, reprinted from the Conference Board Economic Record, May 22, 1940. Business embraces all privately owned enterprises, both corporate and noncorporate, in mining, agriculture, manufacturing, construction, transportation, and public utilities, trade, and service.

There are many similarities. In both cases the percentage of "other income" to total income works out at 2.5. In both tables the ratio of depreciation and depletion to total disbursements is about the same (2.5). So are the percentages for "bad debts" and "taxes" (3.3).

But there are also some outstanding differences. The ratio of "interest and rent paid" to total disbursements is nearly five times as high for business (5.4) as for manufacturing corporations (1.1). Retailing and service establishments, among others, do much more of their business in rented premises. Similarly the percentage of entrepreneurial withdrawals to total disbursements (5.5) is more than three times as high as the percentage in manufacturing corporations of "administrative expenses" to the same base (1.7). The withdrawals of owner-operators and entrepreneurs in small business, trade, service enterprises, and agriculture constitute not only the return, if any, on their investment but also the remuneration for their services and indeed

may comprise their entire livelihood. Cash dividends paid are, however, lower being only 3.2 percent of disbursements for business as a whole as opposed to 5.3 percent for all corporations.

Finally, if entrepreneurial withdrawals, dividends, interest, and rent are all lumped together and expressed as a percentage of total income, the figure for business as a whole (12.7) is nearly twice that (7.4)² for manufacturing corporations. This comparison may overstate the amount by which the share of the proceeds going to the owner-manager property-holding group in business exceeds that going to the same group in all corporations. For in the latter the incomes of a substantial proportion of the executive personnel are included under wages and salaries. But the fact should be remembered that the major items entered under "other expenditures" are other deductions, contributions, and gifts, and total compensation of officers. In short, the indications are that the proportion of the consumer dollar going to labor in that section of the economy dominated by corporations is fully as great and in all probability appreciably greater than that which goes to labor in the noncorporate section of the economy. Dividends and interest are just as large a fraction of consumer funds absorbed for business as a whole as they have been shown in preceding chapters to be for individual corporations and industries.

In conclusion, the fact need hardly be stressed that data do not exist for evaluating the social performance of corporations, either individually, in groups, or in their entirety. Data on production and employment are simply not to be had. But, none the less, the available figures for corporations, fragmentary as they are, have been included, not because they throw any considerable light upon the social performance of corporations as a group, but merely to indicate the extraordinary gaps that exist in public information on the subject at this time. Corporations in modern times are economic states with powers in many instances fully as great as that of political States of the American Union. Yet the operations of many of them are almost completely concealed from public scrutiny. Price policies, production policies, employment policies, wage policies, industrial-relations policies of such corporations are of crucial importance for the economy, yet only in exceptional instances is even rudimentary information available. Most financial data test profit performance. That given above represents the sum total now to be had bearing upon the social performance tests which have been utilized throughout this study.

²Interest and rent paid plus cash dividends paid plus administrative expenses.

CHAPTER VI

THE ECONOMIC SYSTEM

So far as the economy is concerned, the performance standards set up in the preceding chapters may be said to constitute the acid test of business. For the thing that the public wants from business and the sole ground on which business can justifiably demand public confidence is the continual demonstration in fact that the community, trusting to the free and voluntary action of businessmen, thereby secures a larger volume of better goods and services than it could possibly get under any other form of economic organization.

Private business, in short, is not primarily an end in itself. It is a means toward the real end, which in economic terms is often stated as "the greatest good of the greatest number." This idea finds repeated elaboration in every fundamental treatise on economics, no matter what the school or variant of point of view to which the authors subscribe. Thus Prof. Sumner Slichter, of Harvard University, in a general textbook first published in 1928, states:

There are six basic tests by which we may appraise an industrial system: (1) By its productivity; (2) by the costs at which production is obtained; (3) by the fairness with which income is distributed; (4) by the effect of the industrial system upon security; (5) by its effect upon liberty; and (6) by the extent to which industrial activities are guided by the general interests of the community rather than by the special interests of small groups.¹

The last three tests are not measurable in quantitative terms; the first three are the substance of the tests applied in this study. For the American economic system was designed by the founding fathers to be a service economy. The essence of the "American dream" is the provision of the highest possible standard of living for the maximum number of our citizens—in short, maximum consumption. It demands the most efficient possible production limited only by natural and human resources. In a monetary society whose citizens obtain claims to needed goods and services by selling physical and mental effort it requires that maximum consumption be promoted, not by giving needy persons work relief in Government projects, but by employing as many as possible and preferably everybody in private enterprise at highest possible wages.

The performance of the economy, so far as the tests utilized in this study are concerned, is shown in chart 37. During the 10-year period from 1919 to 1929 the number employed increased from 42,000,000 to nearly 48,000,000. In the 3 years from 1929 to 1932 over 10,000,000 persons lost jobs. Between 1932 and 1937 nearly 8,000,000 persons regained jobs, yet more than 7,000,000 remained out of work.

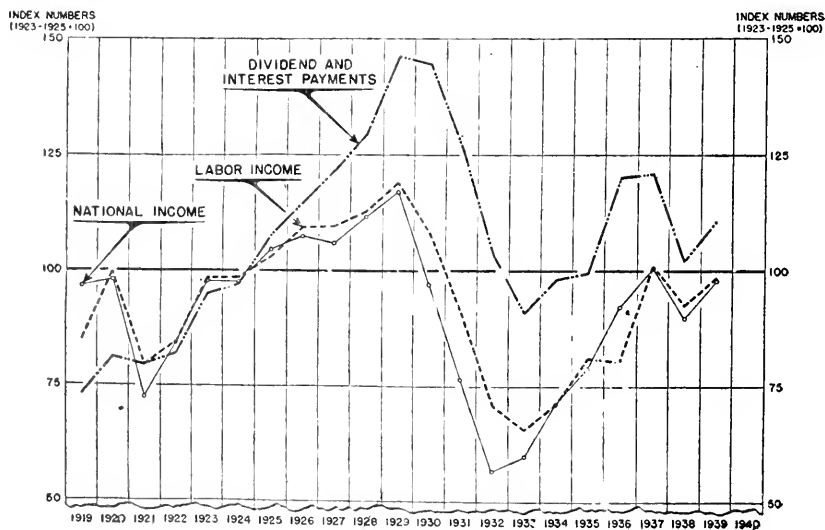
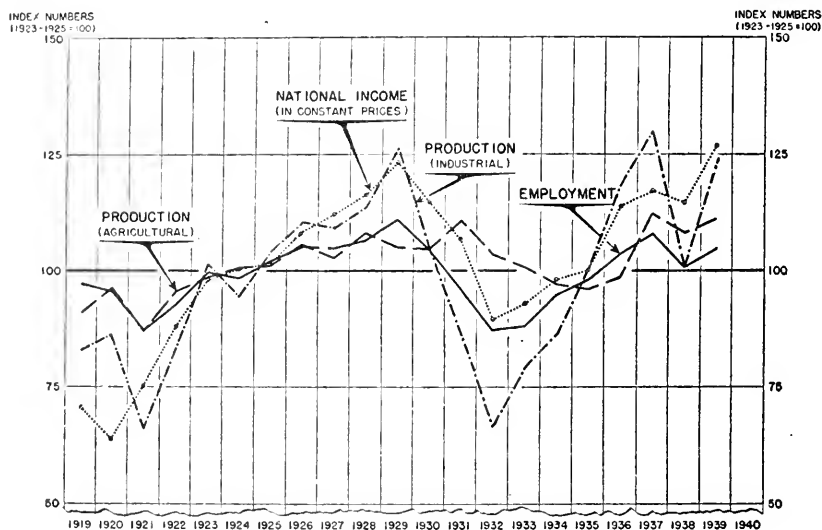
Production likewise increased, both in industry and in agriculture, especially in the period from 1919 to 1929. Industrial production rose nearly 45 percent, agricultural output about 15 percent. In the next 3 years industrial production was almost cut in two while agri-

¹ Modern Economic Society (New York, 1928), p. 850.

CHART 37

SOCIAL PERFORMANCE OF THE ECONOMY

UNITED STATES, 1919-1939



cultural output remained steady. Obviously no estimate is possible of the output of Government or of finance or of most of the service enterprises or of distribution. Between 1932 and 1937 industrial production rose over 70 percent.

To obtain a figure for consumer effort commanded is difficult. Theoretically production and income for the economy as a whole ought in real terms to be nearly identical, at least over a period of years. From year to year, however, substantial differences may occur. For real income depends not only on the annual volume of production but on the annual increment of enjoyment received from durable consumers' goods, such as automobiles, furniture, and housing.

Moreover, industrial production measures the production not only of consumers' goods but of producers' goods. The latter have, of course, no direct usefulness to consumers. The demand for them is a derived demand. They are wanted only because and insofar as they increase the abundance of consumable wealth. Thus industrial production as a whole may be lower, and yet the production of consumers' goods be higher.

A numerical example may clarify this point. Suppose that in a given year a third of industrial production consists of producers' goods, that is, plant, capital equipment, and the like, and two-thirds consists of consumers' goods, durable, nondurable, and perishable. Suppose in a given year that maintenance expenditures are deferred amounting to 10 percent of total industrial production. The index of industrial production would fall to 90 but the output of consumers' goods be undiminished. Suppose that the producers' goods became longer lived (due, say, to superior design, use of alloys, corrosion resistant, etc.) the index of industrial production might fall though production of consumers' goods rose.

Moreover, in depression years an index of production, even of consumers' goods, considerably understates the amount of enjoyment, because the production of durable consumers' goods not only goes down much faster than consumer enjoyment, but may go down at the same time that consumer use of the entire stock is increasing. Consumer enjoyment of residential housing, for example, depends not on the number of new houses built, but on the use made of all the existing housing, including the new homes.

Instead of an index for consumer effort commanded there is given in chart 37 a curve for national income in constant prices, obtained by dividing the index of national income produced by an index of wholesale prices. That is, of course, an unsatisfactory procedure because wholesale prices fluctuate more widely than wages, rents, retail prices, and other elements in the general price structure. In using the index of wholesale prices as a deflator one runs the risk of understating the amount of decline in real income during the deep depression years of 1931 to 1933.

But it is interesting to note that indexes of real national income computed by other methods yield results not substantially different. In the lower section of table 7 are shown two such additional computations. The middle column, national income produced divided by wholesale prices, gives the same figures as those underlying the curve national income in constant prices, shown on chart 37. The figures have been reduced to a 1929 base.

TABLE 7

INDEXES OF NATIONAL INCOME, RETAIL SALES AND PRICES, 1929-39

[1929=100]

Year	Indexes of dollar volume			Indexes of prices		
	Retail sales ¹	National income produced ²	National income paid out ³	Retail prices ¹	Wholesale prices ⁴	Cost of living ⁵
1929.....	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	88.7	83.1	92.1	96.6	90.7	97.5
1931.....	77.6	65.5	77.9	86.6	76.6	89.1
1932.....	61.4	48.3	61.1	78.0	68.0	80.2
1933.....	59.3	51.2	56.5	76.0	69.2	76.2
1934.....	67.1	60.7	64.2	82.5	78.6	79.1
1935.....	75.5	67.4	69.3	84.4	83.9	81.1
1936.....	84.8	78.6	79.6	85.9	84.8	82.1
1937.....	89.6	85.9	87.2	90.2	90.6	84.7
1938.....	81.7	76.7	80.6	89.1	82.5	83.4
1939.....	88.6	83.7	85.1	87.6	80.9	82.6

INDEXES OF REAL NATIONAL INCOME

Year	Deflated retail sales ¹	Real national income produced ²	Real national income paid out ³	Year	Deflated retail sales ¹	Real national income produced ²	Real national income paid out ³
1929.....	100.0	100.0	100.0	1935.....	89.5	80.3	85.4
1930.....	91.8	91.6	94.5	1936.....	98.7	92.7	97.0
1931.....	89.6	85.5	87.4	1937.....	99.4	94.8	103.0
1932.....	78.7	71.0	76.2	1938.....	91.7	92.9	96.6
1933.....	77.9	73.9	74.1	1939.....	101.2	103.0	103.0
1934.....	81.3	77.2	81.2				

¹ Unpublished series of the Department of Commerce. Preliminary figures.² From table 1, p. 2. "National Income at Nearly 70 Billion Dollars in 1939," reprinted from *Survey of Current Business*, June 1940.³ *Ibid.*, table 2, p. 3.⁴ Bureau of Labor Statistics wholesale-price index.⁵ Bureau of Labor Statistics cost-of-living index.⁶ Index of national income produced divided by the Bureau of Labor Statistics index of wholesale prices.⁷ Index of national income paid out divided by the Bureau of Labor Statistics cost-of-living index.

The left-hand column represents retail sales in 1929 prices, obtained by deflating dollar volume of retail sales by the index of retail prices published by the Bureau of Labor Statistics. This index applies only to commodities sold in the retail stores. All services are omitted. Obviously it reflects consumer enjoyment or real national income only insofar as the sale of commodities at retail affords a sensitive and reliable measure.

The column on the right represents national income paid out divided by a cost-of-living index. That procedure is also unsatisfactory, mainly because the cost-of-living index only reflects changes in prices of the items entering the budgets of urban wage earners. Budgets of those on the farm, in rural communities, and in other occupational levels are known to be considerably different and price fluctuations diverse. But nonfarm wages and salaries usually comprise about two-thirds of national income paid out in industry. Moreover, in really fundamental items, food, clothing, and the like, the market price is the same for everybody and the needs nearly so. The index may well serve as a test of other indexes.

Comparing fluctuations in the three indexes note that the fears expressed above that the curve showing national income in chart 37 might be too high in years of deep depression, seem to be groundless. The curve of real national income produced is somewhat lower than the others from 1931 to 1937. The amount of similarity in fluctuation is striking. Real national income went down barely 25 percent between 1929 and 1932-33 at a time when national money income was cut in half. All the indexes show a recovery beginning in 1934, which carried real national income back to 1929 levels in 1937 and lifted it somewhat above 1929 levels in 1939. Such is, of course, what one would expect seeing that agricultural production reached a new high in 1937, and the monthly index showing production of nondurable consumers' goods reached a new high in 1939.

Thus the figure showing national income in real terms, while not strictly comparable with the figure in preceding charts representing the consumer effort commanded by production in a particular industry, is a highly significant index of the performance of business. Such as it is, it shows that consumer real income held up much better than either employment or production. The fact hardly needs to be mentioned that even the unemployed participate in consumer real income either by using their savings or by money income from public and private charity.

At the bottom portion of the chart, the outstanding fact is the manner in which dividends and interest rose faster than national income or labor income in the twenties, maintained itself in 1930, and has kept well above both national income and labor income right up to the end of the period, though the gap has been narrowing rapidly in the last 2 or 3 years. This chart shows upon whom falls the real impact of depression. For labor income rose and fell with national income. Labor bore its full share of the depression. The theory held in some quarters that property, that is, stockholders and bondholders, take the risk is not borne out by the chart.

To be sure, as has been abundantly shown in the preceding chapters, labor has not suffered equally in all industries. Unemployment has been much more severe in some industries than in others. The forces throwing men out of work hit particular industries with enormous impact and affected others scarcely at all. The variation in pattern appears clearly from table 8 and table 9.

In the former, employment in 1939 is compared with employment in 1929, because in those 2 years the aggregate volume of production of all goods was roughly 'the same.'² In 1939, 3,000,000 fewer workmen were needed,³ manufacturing and mining accounting for the disemployment of more than one out of three of them, transportation more than one out of four, agriculture about a fifth, construction the same, and trade and finance about a sixth. Service establishments, government, education, the professions, and domestic and personal services employed more persons in 1939 than in 1929.

² In 1929 the Federal Reserve Board index of industrial production (1935-39=100) was 110; in 1939, 108. The index of agricultural production (1923-25=100) in the former year was 105, in the latter 110.

³ The total unemployed in 1939, about 9,000,000, obviously includes in addition to these 3,000,000 those who have come on the labor market since 1929.

TABLE 8.— *Changes in employment between 1929 and 1939*

Industry	Thousands of workers		Difference between 1929 and 1939
	1929	1939	
Total, employees and officials.....	47,453	44,314	-3,139
Agriculture.....	11,293	10,629	-664
Family workers.....	8,305	8,150	-155
Hired workers.....	2,988	2,479	-509
Nonagricultural industries.....	36,160	33,685	-2,475
Employees.....	31,876	29,160	-2,716
Officials, proprietors, and self-employed persons.....	4,284	4,525	+241
Employees only:			
Manufacturing and mining.....	11,041	(2)	
Employees.....	10,715	9,593	-1,122
Construction.....	1,976	(2)	
Employees.....	1,784	1,169	-615
Transportation and public utilities.....	4,294	(2)	
Employees.....	3,909	3,021	-888
Trade and finance.....	8,887	(2)	
Employees.....	6,944	6,457	-487
Service establishments and miscellaneous industries.....	3,022	(2)	
Employees.....	2,102	2,000	-102
Government, education, and professional services ³	3,714	(2)	
Employees.....	3,196	3,661	+465
Domestic service and related employment.....	3,225	3,258	+33

¹ Estimates of agricultural employment are from U. S. Bureau of Agricultural Economics; estimates for other industries are from U. S. Bureau of Labor Statistics, Revised Estimates of Nonagricultural Employment by Loring Wood. The nonagricultural estimates have been revised as of January 1940 but are subject to further revision.

² Estimates for individual industries for 1939 are not available. In computing total nonagricultural employment, the Bureau of Labor Statistics has assumed there was no change in the number of officials and self-employed workers between 1938 and 1939.

³ Does not include persons in the Civilian Conservation Corps and on Work Projects Administration and National Youth Administration work projects.

Even that picture is too general. For in table 9 a computation is made of the amount of unemployment that would have existed had the economy performed as well or as poorly as the industry or segment. If, for example, industry in general had done no better than construction in 1939, there would have been over 23,000,000 unemployed instead of 9,000,000. Had it done as well as the service industries, the number of unemployed would have been about 2,500,000.

TABLE 9.—*Employment performance of industries and industry groups*¹

Industry or group	Employment indexes			Total unemployed if each industry were representative of economy	
	1929	1938	1939	1938	1939
Industry groups:					
Activity necessary to maintain 1929 levels of employment ²	100.0	111.1	112.4	454,325	477,375
Service industries	100.0	103.5	108.1	4,096,625	2,586,075
Agriculture	100.0	104.2	105.1	3,761,150	4,023,825
All workers	100.0	91.0	94.6	10,099,000	9,080,000
Trade, distribution and finance	100.0	91.4	92.6	9,895,550	10,014,450
Manufacturing	100.0	86.2	92.6	12,387,650	10,014,450
Public utilities	100.0	80.7	80.5	15,023,525	15,813,375
Forestry and fishing	100.0	75.3	78.7	17,611,475	16,676,025
Transportation	100.0	73.0	76.4	18,713,750	17,778,300
Extraction of minerals	100.0	70.3	66.3	20,007,725	22,618,725
Construction	100.0	56.3	65.4	26,717,225	23,050,050
Industries:					
Baking ¹	100.0	116.6	117.6	³ -2,181,550	-1,966,800
Canning and preserving ¹	100.0	113.4	112.6	-647,950	429,450
Activity necessary to maintain 1929 levels of employment	100.0	111.1	112.4	454,325	477,375
Chemicals	100.0	105.7	112.4	3,042,275	525,300
Slaughtering and meat packing	100.0	101.2	103.9	5,198,900	4,598,925
Paper and pulp	100.0	98.3	102.3	6,588,725	5,365,725
Boots and shoes	100.0	99.0	99.7	6,253,250	6,611,775
Iron and steel (blast furnaces, steel works, rolling mills)	100.0	88.1	98.8	11,477,075	7,043,100
Flour	100.0	95.9	98.3	7,738,925	7,282,725
Petroleum refining	100.0	98.1	96.8	6,684,575	8,001,600
All workers	100.0	91.0	94.6	10,099,000	9,080,000
Cotton goods	100.0	84.9	92.7	13,010,675	9,966,525
Automobiles	100.0	68.1	88.0	21,062,075	12,219,000
Woolen and worsted goods	100.0	85.0	86.3	12,962,750	13,033,725
Agricultural implements (including tractors)	100.0	87.1	83.7	11,956,325	14,279,775
Confectionery	100.0	81.4	81.6	14,688,050	15,286,200
Furniture	100.0	71.0	77.7	19,672,250	17,155,265
Tobacco	100.0	77.7	77.0	16,461,275	17,490,750
Lumber, millwork	100.0	63.5	70.2	23,266,625	20,749,650

¹ Indexes for the economy as a whole and for industry groups were computed from data published by the National Industrial Conference Board, *Economic Record*, March 20, 1940, pp. 78-83. Employment indexes for separate industries were computed from Bureau of Labor Statistics publication *Indexes of Factory Employment and Pay Rolls*, September 1939 and May 1940.

² For purposes of indicating the total unemployed force, the Conference Board statistics were accepted, and the following assumptions made: (1) The working force numbered 48,354,000 in 1929, 53,699,000 in 1938, and 54,353,000 in 1939; (2) there were 429,000 unemployed in 1929 (a very low estimate); (3) the phrase "maintain 1929 levels of employment" means a maintenance of the 1929 ratio of employed to working force.

³ A minus sign indicates a surplus demand for labor.

The variation in performance among the individual industries is no less striking. Had the whole economy in 1939 performed as well, for example, as did baking, there would have been a shortage of nearly 2,000,000 workers. On the other hand, had industry in general done only as well as the tobacco industry, society and with it the Government, would have had twice as large an unemployment problem on its hands. Similar computations made for individual companies show that had the economy as a whole done as little to employ labor as did, for example, the American Telephone & Telegraph Co., the number of unemployed would have been over 24,000,000 persons.

The record of reward to stockholders, bondholders, and management is an entirely different one, both in general and in detail. As was noted above, the dividends and interest curve remained high above the curves for national income and labor income throughout the thirties though coming closer to base-period relationships in recent years.

Corroborative details are given in table 10. Interest payments, for example, were equal to 7.3 percent of national income in the boom year of 1929. During the depression the burden on national income increased nearly 60 percent until, in 1932, 1 dollar out of 9 went to bondholders and other recipients of interest. Bankruptcies paralyzed the economy. But as national income rose to prosperous levels the percentage taken by interest again declined to the proportion given to bondholders in the prosperous twenties. A contributing factor to the lightening of the interest burden has been the decrease in the total debt between 1929 and 1939 by about \$10,000,000,000, and an appreciable lowering of the interest rate nearer peacetime levels that obtained before the World War.

TABLE 10.—*Owner-manager share in national income, 1929-39*¹

Year	Millions of dollars				Percent of national income			
	Divi- dends	Interest	Net rents and royalties	Entre- preneurial with- drawals	Divi- dends	Interest	Net rents and royalties	Entre- preneurial with- drawals
1929.....	5,945	5,906	3,364	12,620	7.4	7.3	4.2	15.6
1930.....	5,634	6,081	2,674	11,903	7.6	8.2	3.6	16.0
1931.....	4,280	5,990	2,036	10,148	6.8	9.5	3.2	16.2
1932.....	2,727	5,666	1,224	8,156	5.5	11.5	2.5	16.6
1933.....	2,193	5,158	1,208	7,364	4.8	11.4	2.7	16.1
1934.....	2,725	5,212	1,455	8,149	5.3	10.1	2.8	15.7
1935.....	2,931	5,124	1,691	8,911	5.2	9.2	3.0	16.0
1936.....	4,651	5,070	1,909	9,818	7.3	7.9	3.0	15.2
1937.....	4,755	5,042	2,113	10,813	6.7	7.2	3.0	15.4
1938.....	3,370	4,888	1,975	10,473	5.2	7.5	3.0	16.2
1939.....	4,124	4,852	2,050	10,826	6.0	7.1	3.0	15.7

¹ Source. See appendix D.

To sum up, the same tendencies dominate the economy as dominate individual industries and segments of the economy. Production tends to outrun employment. Consumer funds absorbed, except in highly competitive industries such as agriculture and the service trades, tend to outrun production. Dividends and interest payments tend to outrun both pay rolls and national income. A substantial part of industry, in short, seems to work constantly toward producing more and more goods with less and less labor, toward taking more and more purchasing power from consumers in exchange for less and less, toward paying out less and less to labor and more and more to stockholders and bondholders. Management, in other words, has accomplished in fact what it publicly claims is its major obligation. It has protected and made money for its owners, precisely what it was hired to do. But in accomplishing that, it has in many instances and in many ways failed to meet the social performance standards which, as was said at the beginning of this chapter, constitute the acid test of business.

CHAPTER VII

PATTERNS OF SOCIAL PERFORMANCES

An inductive study has now been made of 22 industries, 9 component segments of the economy, 3 large corporations, all manufacturing corporations, business as a whole, and the economy as a whole. Thirty-seven charts have been presented, each comparing in terms of a base period or base year what happened to employment, production, consumer effort commanded, consumer funds absorbed, pay rolls, and dividends and interest. In these charts the careful reader has no doubt already been impressed by the repeated emergence of patterns of relationship, patterns that may be of considerable meaning for the socially effective functioning of the American system of private enterprise.

At least four such can be distinguished and are shown in chart 38. The first, that shown in section A of the chart, may be called the pattern of full employment. It is one in which production increases steadily; employment also increases but at a relatively lower rate, while consumer effort rises at a still slower rate or shows a gradual tendency downward. An industry conforming to this pattern such as the knit-goods industry is one which is steadily offering consumers more and more goods in exchange for less and less effort and, by transmitting to consumers all the improvements that technology has made possible, tends steadily to increase the product per worker at the same time that the amount of employment increases. Such a performance means full employment and larger per capita production at steadily decreasing prices.

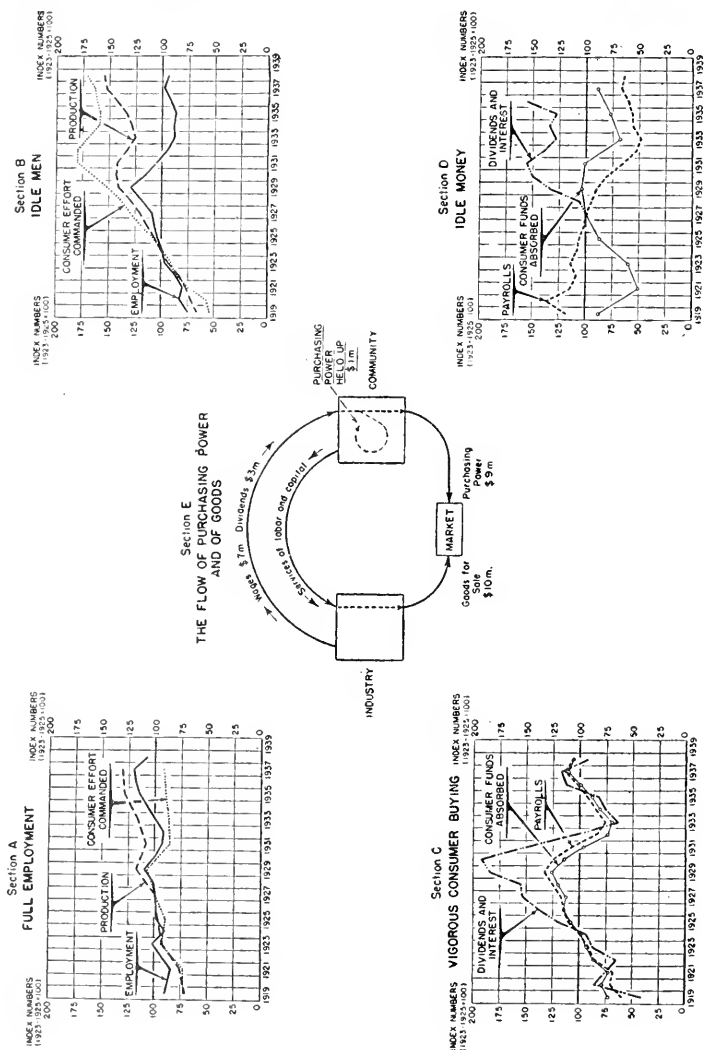
A variant of this pattern in an industry on the decline or in a period of depression is that in which production, employment, and consumer effort commanded all remain constant or go down but consumer effort commanded goes down faster than production, while employment goes down less rapidly or only *pari passu* with production. Such an industry is pursuing a dynamic price policy. It is lowering its prices, thereby not only increasing, or lessening the decrease in, the demand for its products but also eliminating the high-cost inefficient producers.

The pattern shown in section B, on the other hand, might be called the pattern of unemployment. It is one in which the amount of consumer effort commanded rises steadily in relation to production while employment declines, not only relatively but absolutely. In such an industry, for example, the telephone industry, the curves may go in opposite directions, production up, employment down, while the amount of consumer effort commanded may rise not only relatively but in an absolute sense. Such an industry is obviously enjoying prices that sustain themselves higher than prices generally. Relative to experience in other industries such an industry is keeping production better adjusted to consumption, in that particular industry. But it causes maladjustments in the economy. It throws

additional thousands into the army of idle men. It aggravates the national unemployment problem.

In section C of the chart is shown a pattern of behavior that promotes vigorous consumer buying. It is one in which the pay-roll dollar becomes a steadily increasing percentage of the consumer dollar. Industries with this pattern, e. g., the service industries, gradually

CHART 38 PATTERNS OF SOCIAL PERFORMANCE UNITED STATES, 1919-1938



increase the share of their disbursements going to labor. This contributes to the maintenance of a mass market and of mass purchasing power.

On the other hand, dividends and interest payments stay in line with or become a smaller proportion of consumer funds absorbed. In depression they may even go considerably below pay rolls. Such an industry does not aggravate the problem of idle money piling up in

the banks. So far as internal expansion is concerned it probably has little if any responsibility for "excessive" plant capacity, "excessive" in that it can produce more goods at present prices than consumers can or will buy at those prices. Such an industry contributes slightly if at all to problems of disproportionate investment, disproportionate savings, or maladjustments in the share of the total income stream saved as opposed to that spent on consumption goods.

The industries in which the pattern shown in section D is present cannot thus be absolved from responsibility. For in pattern D and variants thereof the flow of funds going into pay rolls dwindles relative to that collected from consumers' pocketbooks. Laborers do not get back in pay envelopes what they pay out in the market place.

By this is not meant the simple though overwhelming fact that the great majority of wage-earner families cannot balance their budgets, that their expenditures exceed their incomes. For although there were 23,350,000 such families and single individuals with incomes less than \$1,250 a year who "went into the hole" by \$1,553,000,000 in 1935-36¹ and although they comprised 61 percent of all families and individuals, they did not constrict the market by such deficit spending. They expanded it.

On the contrary, what is here meant is that in industries in which pattern D obtains the size of the flow of funds which the laborers get in that industry decreases relative to the size of the flow of funds which that industry collects from the public for its product.

Fully to understand the significance of this pattern of behavior especially when it characterizes so many industries and segments of the economy requires a brief excursion into economic fundamentals.

For a long time scientific economic literature has given careful attention to the circular flow of goods and money. From Adam Smith to the present day, emphasis has been placed on measuring these streams, on keeping them in adjustment, on studying alterations in volume, velocity, interaction, and sources of disturbance.

At any given time and price level the two streams, in the absence of disturbances, are, of course, equal, because as Jean Baptiste Say pointed out nearly a century ago goods fundamentally exchange for goods. By action of prices total supply equals total demand, that is, people use the money which they secure in selling a good or service to buy another good or service. Money is the medium whereby all the goods are at bottom bartered for each other.

Economic literature, therefore, has little sympathy with theories of so-called overproduction or underconsumption or, in fact, any analyses ignoring the truism that prices tend to equalize the total amount supplied with the total amount demanded. General overproduction cannot exist.

But there are various developments often referred to as overproduction that can exist. For example, there may be disproportionate production; that is, production of a particular type of goods in excess of that which can be sold at the going price. There can also be disproportionate expansion; that is, a particular industry may be equipped to produce more than the market will absorb not only at the going price but sometimes at any price. Railroads have become streaks of rust in the wilderness.

¹ See National Resources Committee, *Consumer Expenditures in the United States* (Washington, D. C., 1939), p. 53.

Furthermore, there can be general overinvestment; that is, too large a proportion of the community's income may go at times into the production and purchase of machinery and capital equipment and too little of it into the production and purchase of its output. Moreover, at certain times goods are produced in such volume that a general reduction in prices is required to enable consumers to take all of them off the market. Stated in another way, an inadequate pressure of purchasing power develops; that is, consumers do not come into the market in sufficient numbers or with sufficient buying power to keep industry reasonably fully employed. While the needs of consumers are almost limitless, the factor that counts in the market place is not their needs but their pocketbooks.

Until a comparatively recent date most analyses dealing with the problem of underproduction neglected a vitally important point. They usually proceeded on Adam Smith's assumption that the community was made up of individual producers who owned the businesses which they operated. The argument assumed that modern business was no different from that which existed in the nineteenth century and that which still exists on the farm. The farmer, as is well known, continues to turn out goods, although he may not be obtaining what he regards as a reasonable return for his effort. For him the situation is either produce or starve. If the whole economy were composed of farmers or of individual producers similarly constrained as individuals to produce or starve, there might be fluctuating prices but on the whole the problem of lack of markets and of unemployment would be as small as it was throughout the course of history until the middle of the nineteenth century.

It is to Prof. Wesley Mitchell that we are particularly indebted for an explanation of the essential differences. In a notable book entitled "Business Cycles: The Problem and Its Setting," he points out that—

Until a large part of a population is living by getting and spending money incomes, * * * organizing in business enterprises with relatively few employers and many employees, the economic fluctuations which occur do not have the characteristics of business cycles (p. 75).

After making an extensive analysis of business cycles in various countries he concludes—

there is evidence that business cycles are most pronounced in those industries which are dominated by full-fledged business enterprises (p. 182).

This has been amplified by a notable English economist as follows:

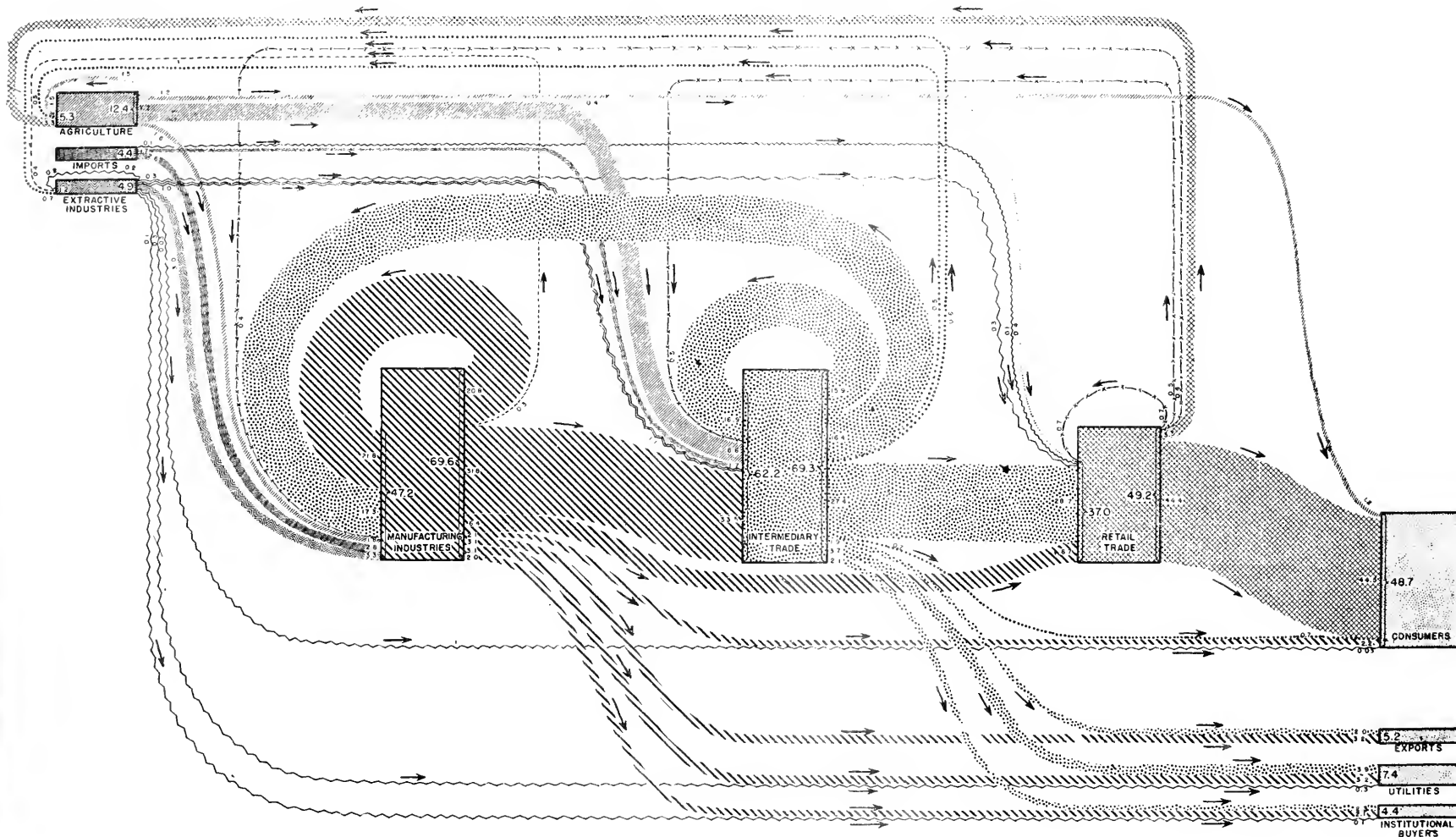
In those countries and in those lines of production most subject to recurrent periods of business depression the great majority of producers do *not as a literal matter of fact* make goods and exchange them for other goods. The great majority of those engaged in production, work for or lend their capital to some business undertaking; receive wages, salaries, profits, dividends, interest, rent, etc., in return; and use the purchasing power so obtained to buy the goods thus made. In place of the individual producer, the position now is that both in his selling and in his buying relationships the individual has to deal with a more or less impersonal undertaking of the limited company or corporation type.²

In other words, the striking difference between the facts of 1940 and the facts of 1840 or 1776 (the year in which Adam Smith wrote his *Wealth of Nations*) is that production in modern times is organized in the hands of collective units such as the corporation, limited

² P. W. Martin, *The Problem of Maintaining Purchasing Power* (London, 1931), p. 14. [Italics in original.]

THE FLOW OF GOODS IN THE UNITED STATES*

(FIGURES IN BILLIONS OF DOLLARS)



*SOURCE: Twentieth Century Fund, DOES DISTRIBUTION COST TOO MUCH? (New York: 1939), reproduction of master chart contained in pocket on inside cover

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liability company, or business undertaking. As was noted above, the individual farmer keeps on working no matter what the price of his product but the business undertaking ceases production and indeed cannot continue for long unless as a general rule the price it receives for its product is sufficient to cover total money disbursements. In short, the governing factor in the present-day business world is not so much ability to produce as ability to sell. A business enterprise to keep going must show a profit. Thus it is important to know whether the stream of purchasing power being used to buy all varieties of finished goods is likely to be sufficient to provide a market at remunerative prices for the stream of goods in general being offered for sale. For unless it is, business suffers losses and ultimately production stops.

The modern process of exchange, as shown in simplest terms in section E of chart 38, is therefore a double one. From business undertakings—wages, dividends, and the like are paid to private individuals for whom these business disbursements become purchasing power which they pour into the market, business continuing the process by absorbing such flows from the market in exchange for goods. But a reverse flow from business undertakings takes place on the goods side. Goods going to the market are carried away by private individuals who in turn bring to the business corporation the services of labor and capital. The whole process is self-regenerating.

The diagram obviously shows only the main workings of the machinery of production and sale. There are numerous other transactions taking place, for example, between one business corporation and another or between private individuals and other private individuals or between private individuals and businesses. But the fundamentals do not vary. There are also transactions between the Government and business in collecting taxes, raising loans, and the like. Likewise there are questions of foreign trade. But the essence of the modern process of production is that shown in the diagram. It insists upon the central part played by the business corporation in the modern industrial state. It deals with all finished goods, including capital equipment, and it stresses the fact that so far as the modern business corporation is concerned it makes little difference whether prices are high or low. They must be remunerative.

A more complete picture of the flow of goods in the economy is given in chart 39, which has been taken directly from a study on distribution by the Twentieth Century Fund. The chart does not show the reverse flow of money from consumers through various business and industrial intermediaries to laborers and owners. According to the experts who prepared this chart:³

The flow of goods chart shows the movement of commodities from their origin as raw materials (and imports) to their destination as finished products, and measures their increasing values at various stages throughout the entire process.

The dollar value of the goods produced or distributed by each industry or branch of trade (e. g., agriculture, manufacturing, retail trade, etc.) is measured by the heights of the various colored rectangles, while the distribution of these goods is shown by colored bands of varying widths moving out to the right from each rectangle. Similarly, the bands moving into each rectangle from the left show the source and value of goods purchased by each branch of industry. The bands describing an arc from the right side to the left side of the same rectangle measure

³ Prepared by the Twentieth Century Fund. Based on "Does Distribution Cost Too Much?" Twentieth Century Fund (New York, 1939).

the amount of "recirculation" or sale of goods to, or their use within, the same industry or branch of trade.

Taking the rectangle representing agriculture as an illustration, its height shows the value (\$12,400,000,000) of agricultural products entering the distribution system in relation to the value of goods from other primary sources and in various stages of manufacture or distribution. The bands moving from the right of the rectangle measure the distribution of the \$12,400,000,000 worth of agricultural commodities: \$7,700,000,000 moving to intermediary trade, \$1,600,000,000 to manufacturing industries, \$1,500,000,000 used in agriculture itself, 200,000,000 sold direct to consumers, and \$400,000,000 going to retail trade. Each of these bands increases in width before entering the next rectangle to measure estimated costs of transportation—thus the \$7,700,000,000 worth of agricultural goods sold to intermediary trade is valued at \$8,600,000,000 on reaching its destination.

In much the same manner, the bands flowing from the right of the rectangle marked "manufacturing industries" show that \$31,800,000,000 of the \$69,600,000,000, total value of manufactured products are sold to intermediary dealers, \$29,800,000,000 to other manufacturers, \$6,400,000,000 to retailers, and lesser amounts direct to final consumers and ultimate buyers of various types. In intermediary trade, goods valued at \$69,300,000,000 are taken largely by retail trade (\$27,400,000,000), by manufacturers (\$16,400,000,000), and by other intermediary dealers (\$15,900,000,000), with smaller amounts sold direct to terminal and other buyers. The bulk of commodities sold by retail trade go direct to final consumers (\$44,400,000,000 out of \$49,200,000,000). The remainder finds its way to agriculture, to manufacturing, and intermediary trade or is resold to other retail dealers. It should be noted that in all of these transactions transportation costs account for the increased value at the point of destination.

The chart is based on figures for the year 1929 and measures only the flow of movable tangible commodities from the point of origin to the point of final sale as commodities, and does not include the range of economic activity involving the purchase and sale of services such as transactions in real estate and construction, finance, insurance, light and power, and other commercial, professional, and personal services. Although the total dollar volume of transactions in recent years has been at lower levels than the volume in 1929, the relationships between the different branches of trade and production and between the volume of goods flowing through different channels probably remain approximately as pictured.

The sketchy analysis given above is not designed to be a substitute for the analysis which Mr. P. W. Martin has made with great thoroughness in his book entitled "The Problem of Maintaining Purchasing Power: A Study of Industrial Depression and Recovery." Those who seek a convincing demonstration of each particular point in this summary should consult that valuable treatise. Suffice it to say that Dr. Martin there establishes the fact that business depressions of the type experienced in the modern industrial state are not found where a primitive form of economic organization exists. Whereas individual producers continue to turn out goods, no matter what the price because otherwise they starve, business corporations cannot continue producing for long unless they are successful in disposing of their goods at prices covering the total money costs incurred in the process of production. By ignoring the device of the business corporation one ignores the fundamental condition of continued business activity, namely, sale at remunerative prices.

Thus the important problem in the modern economy is to make sure that the flow of income coming on the buying side of the market is sufficient to purchase at prices covering total money expenses of production the flow of all finished goods of all descriptions, including capital equipment, coming upon the selling side of the market. The two flows do not maintain themselves automatically. Adjustment must be made for disturbing forces.

Reductions in the money volume of commodity stocks voluntarily held by industry—for example, reductions in the quantity of money

and credit in circulation, additions to consumer hoardings in the community, and additions to industry's working capital or cash balances—forces such as these bring about a corresponding deficiency in the stream of purchasing power. On the other hand, reductions in working capital—that is, in cash holdings of business enterprises, additions to the money volume of commodity stocks voluntarily held, additions to the total quantity of money in circulation, and reductions in consumer hoardings—all tend to bring about a relative increase in the flow of purchasing power.⁴

The disturbances of major importance are twofold in character those operating periodically in the ups and downs of business and those which operate persistently over a period of decades to raise or lower the whole level around which cyclical fluctuations take place. It is the latter type that is vital to the maintenance of a high level of employment. And it is the forces causing inadequate pressure of purchasing power in the market which share responsibility for levels of reduced activity.

Thus any change in the distribution of income which tends to change the amount of spending for consumers' goods as opposed to the amount of saving and spending for capital goods may bring imbalance in the economy. Consequently, insofar as industry over a period of years pays out more and more to that very small percentage of the community who owns its stocks and bonds in significant quantities and pays out less and less to that overwhelming mass who purchase the products which industry produces, industry automatically restricts its own market.

Industry, in short, makes a profit in two ways, one by increasing production, the other by "adjusting production to consumption." In agriculture, service enterprises, and the like, each individual producer can improve his position, so long as he keeps operating, only by increasing his production, for prices are out of his control. But in a vast range of industry, particularly where due to the small number of producers, the chances of successfully exercising control are favorable, production is curtailed even though prices remain relatively high or unchanged. The greater the concentration of power, the more available this alternative of maximizing profits or minimizing losses by "keeping production adjusted to consumption." Industries of the first type generally have performance records characterized by patterns A (full employment) and C (vigorous consumer buying). Industries of the second type generally show up with performance records characterized by patterns B (idle men) and D (idle money). With this point in mind, please turn back to the charts, one by one, and make a careful study of each of them.

The result leads irresistibly to the conclusion that there are two intermingled though distinct systems of business operating in the economy, the one competitive, free, individualistic, the other monopolistic, controlled, collectivistic. Some industries have hundreds of producers and sellers while in others there has developed a concentration of economic power and authority, a growth of large organizations of such proportions that less than a half dozen firms produce nearly all of the output, or at least more than one-half the output. In these industries the traditional American system of free competitive enter-

⁴ For a demonstration of these propositions see P. W. Martin, *The Problem of Maintaining Purchasing Power* (London, 1931), especially pt. II.

prise no longer exists. Instead there is monopoly, or oligopoly, or monopolistic competition, in short, concentration of economic power into a few hands.

The difference between these two systems should be clearly realized. The competitive American enterprise system is a process of unconscious, voluntary cooperation where free prices keep consumption equal to production; the monopolistic system is a process of conscious, compulsory cooperation.

The free competitive American enterprise system seeks maximum production, exchange, and consumption of goods and services freely chosen by individuals. The corporate bureaucracy system seeks maximum power and permanence of their authority and only that production, exchange, and consumption of goods and services as is necessary to minimize risks and maximize profits. It not only restricts production in bad times. As Prof. Sumner Slichter, of the Harvard Graduate School of Business Administration, states: "It is not, however, merely in times of depression that industry fails to produce to capacity. Under existing economic arrangements, most enterprises must *normally* restrict output in order to maintain solvency."⁵

The free competitive American enterprise system seeks to meet the costs, sacrifices, and risks involved in its objectives by the maximum utilization of natural resources and the fullest development of individual human qualities and capacities. The system of bureaucratic oligopoly seeks to meet the costs and sacrifices involved in its objectives by withholding resources from production,⁶ by rationing natural resources—e. g., proration schemes in the oil industry, and by mass standardization of human beings to fit automatic processes and power-driven machinery.

In no economic system can there be a concentration of rewards, such as the distribution of corporate earnings or of individual incomes shows to exist in the United States, without an equal concentration of risk and loss. Quasi-monopolistic authoritarian organizations continuously support efforts to minimize these costs and risks, or conceal and distribute them over the whole population by tariffs, subsidies, and enforced uniformity of prices. In the traditional American enterprise system, the expectation or possibility of rewards or profit is the energy that animates the competitive, experimental, and risk-taking effort to utilize resources and develop human capacities. And the certainty of individual loss serves to distribute the benefits most widely with a minimum of risk to the whole economy. But in that range of enterprise dominated by large aggregates, although prices may behave uniformly and be set with certainty, risks and losses are shoved over on laborers, consumers, farmers, and the public. The tendency of monopolies and corporate bureaucracies to destroy competition emphasizes one characteristic or arrangement of the American people which is of supreme importance for the preservation of free competitive enterprise. This is the subjection of monopoly, oligopoly, and all concentrations of economic power to the control and service of the people. A monopoly or organization with concentrated economic power tends inherently and inevitably to subject its laborers,

⁵ Sumner Slichter, *Modern Economic Society* (New York, 1928), p. 5. [Italics in original.]

⁶ On this point Professor Slichter states, p. 7: "Indeed industry . . . appears normally to produce far below its capacity."

its consumers, and the public to its service, its control, and its management.

No enterprise society can exist or prosper which does not establish and constantly perfect arrangements and institutions and ideals which make these industrial and financial empires completely subordinate to the inherent resources and capacities of the people. It must prevent exploitation of the people by such corporate bureaucrats intoxicated with their economic power. It cannot let matters take their course. If democracy is to survive it must be vigilant, strong, forceful, and constantly able to defend itself against concentrated economic power. For when the rulers of industrial empires control the state, the inevitable result is fascism and destruction of liberty. In this regard, the concluding paragraph of Professor Slichter's chapter on Large business units is particularly pertinent.⁷ Remember that these words were published in 1928 at the very apogee of the new era:

Finally, and most important of all, large business units, more than any feature of our economic arrangements, create the problem of the relationship between industry and the state. The history of government shows that whenever powerful extra political organizations arise, the relationship which shall exist between them and the state becomes a major political issue. It was so in the Middle Ages when the power of the Papacy made the relationship between the church and the state perhaps the supreme political problem. Today the development of huge business enterprises has made the relationships between industry and the state *the* political issue of the age. It occupies much the same position in modern political life as did the problem of the church and the state in the Middle Ages.

⁷ Chapter VII of *Modern Economic Society*, p. 147. [Italics in original.]

CHAPTER VIII

A BUREAU OF INDUSTRIAL ECONOMICS

The importance of keeping a continuous record of the social performance of individual businesses, of industries, groups of industries, and segments of the economy requires no emphasis. As President Roosevelt stated in his message advocating the creation of the Temporary National Economic Committee:

* * * a realistic system of business regulation has to reach more than consciously immoral acts. The community is interested in economic results. It must be protected from economic as well as moral wrongs. We must find practical controls over blind economic forces as well as over blindly selfish men.

Government can deal and should deal with blindly selfish men. But that is a comparatively small part—the easier part—of our problem. The larger, more important, and more difficult part of our problem is to deal with men who are not selfish and who are good citizens, but who cannot see the social and economic consequences of their actions in a modern, economically interdependent community. They fail to grasp the significance of some of our most vital social and economic problems because they see them only in the light of their own personal experience and not in perspective with the experience of other men and other industries. They therefore fail to see these problems for the Nation as a whole.¹

But if the objectives of the antitrust laws are to be fulfilled, if the beneficial results of competition are to be preserved and multiplied, there must be an agency working in close cooperation with the administrative organizations responsible for the enforcement of the antitrust laws, which does see such problems “for the Nation as a whole.”

Traditionally, of course, the enforcement of the antitrust laws has rested in large part on a legalistic basis, the doctrine of conspiracy. The question upon which evidence was sought and presented and upon which the case was adjudged was the legal question, did a meeting of minds occur among the executives of business enterprises hitherto independent, such that prices or production or sales territories were agreed upon, such that restraint of trade was brought about. The important fact always was the meeting of minds. To that end file searches were made, correspondence was carefully compared and pieced together, and witnesses examined under oath.

If a meeting of minds had occurred and the activity came under the interstate-commerce clause, then the main defense left to the industry was that the restraint of trade was “reasonable.” Yet to this concept of reasonable restraint of trade there never was given precise economic meaning. Indeed, in one curious instance the Court itself argued that a policy of price stabilization which had been rigidly enforced for years did not constitute unreasonable restraint of trade on the ground that by stabilizing the price the businessmen in that industry had stabilized the industry. The United States Steel Corporation won a 5 to 4 decision in a case before the Supreme Court in 1920 even though the evidence had shown that the price of steel

¹ Strengthening and Enforcement of Antitrust Laws, S. Doc. No. 173, 75th Cong., 3d sess. (Washington, 1938) p. 7.

rails had remained unchanged for many years while the industry itself had gone through violent fluctuations. When an economic fallacy of such magnitude is raised to the dignity of a judicial doctrine, methods of dealing with concentration of economic power are reduced to insignificance.

Obviously from the point of view of public welfare what the authors of the Sherman Antitrust Act sought to secure was the benefits of competition and these benefits of competition, let it be remembered, are maximum employment, maximum production at lowest possible costs and prices, which in turn insures maximum consumption, that is, maximum real income, the highest possible standard of living.

The real question is clearly not the legal one, was there a meeting of minds resulting in restraint of trade? The real question is, how has this company or industry behaved? What social performance tests has it failed to meet? If the industry in question be one in which production is not only steady but tends steadily to increase, in which employment is not only regular but likewise tends to increase, in which pay rolls on the whole increase, and in which prices to the public are being continually lowered as fast as technological improvements and scientific management can reduce costs, obviously that industry has an excellent record in terms of social performance. Aside from considerations of power and the exercise of such power it makes no difference whether there is a monopolist in that industry or two giant concerns or a few large concerns, or many concerns. The number of concerns is of distinctly minor importance. Nor does it matter whether or not the managers get together once a day or twice a week or only on occasions of merriment. Nor is the fact of moment whether they do or do not discuss prices, production and sales, if the social performance of the industry is excellent. From the economic point of view the only thing that matters fundamentally is how does the industry perform. "By their works ye shall know them."

It is that test which has been applied in the preceding chapters. The statistics have been unsatisfactory and inadequate. The figures have been given only on a national basis. They have not been broken down by regions, nor by States, nor metropolitan districts, nor by branches of industry, nor by companies and plants.

Information of this nature, while sometimes presented ad hoc in the trial briefs of opposing lawyers in antitrust cases, should be continuously assembled and evaluated by some economic arm of the Government. Such an economic intelligence agency would need not only to make analyses such as those in this study, but would require supporting data of various kinds necessary to the full economic evaluation of good or poor industrial performance.

In case of an antitrust prosecution such an agency should be required to present a study (in which the analyses above constitute only rudimentary segments) giving the antitrust enforcement agency, the parties at interest, and the courts an accurate, objective social audit of the industry. Thus the social performance of the industry, or of the company or companies hailed before the grand jury or before the bar could be documented. Such an agency should not only present and analyze figures on employment, production, dividends, interest, sales, pay rolls, and consumer funds absorbed or value added by manufacture, but the range of its information should include a knowledge

of the company's financial structure, its history and experience, and above all a record of its management.

The scope of the operations of such an economic intelligence agency was suggested by President Roosevelt in the message already quoted. In the list of seven items specifically enumerated to "be embraced in the proposed study" was—

Bureau of Industrial Economics.—Creation of a Bureau of Industrial Economics which should be endowed with adequate powers to supplement and supervise the collection of industrial statistics by trade associations. Such a bureau should perform for businessmen functions similar to those performed for the farmers by the Bureau of Agricultural Economics.

It should disseminate current statistical and other information regarding market conditions and be in a position to warn against the dangers of temporary overproduction and excessive inventories as well as against the dangers of shortages and bottleneck conditions and to encourage the maintenance of orderly markets. It should study trade fluctuations, credit facilities, and other conditions which affect the welfare of the average businessman. It should be able to help small businessmen to keep themselves as well informed about trade conditions as their big competitors.²

The scope of the President's proposal obviously goes somewhat beyond that necessary to intelligent enforcement of legislation on competition. Such a bureau would have much other usefulness.

But a primary function might well be to serve as the source of objective economic information in cases arising under the antitrust laws. At the present time, needless to say, the litigants in the case, and particularly the defendant, at such times and insofar as the economic facts seem to afford alternating counter argument to present fragments of such information in their briefs. But these are characteristically one-sided, usually distort the data in all that variety of ways commonly characterizing adversary proceedings, and frequently overwhelm the judges with masses of economic fact and statistics that are not homogeneous, not comparable, and in reality, not even significant.

Rarely, especially where large corporations are brought to book, has the agency in the Government involved in suits under the antitrust laws been able to match in luxury and volume of presentation the economic and financial briefs of the company. Funds for the enforcement of the antitrust law have been exceedingly low even in administrations which seriously undertook the job of reasonable enforcement. Often no appropriation at all has been made for the Economic Section, even of the Federal Trade Commission.

Moreover, access to the necessary facts has been difficult, if not impossible. Except for certain censuses, usually at 5- or 10-year intervals, business as a whole has never been required to report production, employment, pay rolls, sales, and the like. Such information has been obtained in a purely voluntary way usually from the larger concerns, or it has been collected as a byproduct of administration as, for example, the variety of financial information such as information on profits, total assets, and the like, obtained from the reports of the Bureau of Internal Revenue, which in turn obtains them from companies making tax returns. But net income for tax purposes, for example, is an altogether different item in many instances from the net income which a corporation will report to a banking syndicate who is being urged to underwrite securities or buy its bonds, yet most

² Ibid, p. 9.

of the figures which have been contained in the preceding chapters have been such byproducts of administrative convenience.

Despite all these difficulties there has been an increasing tendency in recent years for various concerns when brought under the purview of the Antitrust Division in the Department of Justice to seek to make a presentation of bodies of economic data. A notable recent instance has been that of the potash industry. It went to the Department of Commerce and indeed to the Director of Studies of the Temporary National Economic Committee, Dr. Willard Thorp. Dr. Thorp and his experts devised a questionnaire which sought in detail the kind of information necessary to evaluate the social performance of the industry. In particular, the facts were obtained on prices not only at the seaboard but at various internal points in the country, prices of the different kinds of potash. Detailed figures were also secured on employment, pay rolls, and production, together with a penetrating analysis of the financial structure of the industry. On the basis of the answers to this questionnaire a small staff at the Department of Commerce made a report which recommended a change in the pricing structure whereby the price of potash instead of being quoted at the seaboard was quoted f. o. b. producing plant New Mexico and California. This resulted in lowering the price of potash to a large area in the interior. The industry unanimously adopted this report and upon giving assurance to the Department of Justice of adherence a consent decree was issued. But in the past the enforcement of such a decree has been left to chance or in fact not even been looked into. Complaints of nonenforcement have been numerous, especially in the case of a consent decree obtained by the meat-packing industry in the early twenties. However, if now in the potash industry an administrative agency were required to keep a record of price, production, employment, etc., if thereby the fact of social performance were periodically verified, clearly the purposes of the authors of the Sherman Act will have been achieved even though there are but three firms in the potash industry who, from the very nature of the case, cannot help on occasion getting together and working cooperatively either overtly or sub rosa on prices and sales.

What is being suggested above is that the procedure of social audit be regularized. An economic scaffolding of the character provided ad hoc by the Commerce Department in the potash case should be a regular part of the framework of enforcement of the antitrust laws. The measurements which have been given of the various industries above constitute but a first rough approximation to the task and technique which would need to be followed by such an economic intelligence service.

A NATIONAL COMMISSION ON ECONOMIC POLICY

The standards of social performance set up in this study in reality constitute criteria for national economic policy in a democratic service economy. They form a useful touchstone for proposed and existing legislation and afford a pragmatic test of governmental operations, a test not now applied by a single agency either inside or outside government.

A supreme tribunal on economic policy has long been advocated by businessmen, economists, and legislators. Even as recently as 1936

there was recommended in a Senate committee print entitled "Discussion of National Economic Council or National Council," published by the Senate Committee on Manufactures, that there be established—

a council of about nine members, with an adequate staff, to serve in an advisory capacity to Congress, to the President, and possibly on occasion to the people, on our national problems; and to afford in such an advisory capacity the benefits of well-informed, detached, disinterested, nonpolitical advice.

This full-time council, it is said, appointed in such a way as to make it nonpartisan and as far removed from political pressure as possible, should be—

comparable in ability and standing to the Supreme Court in the legal field, free from the pressure of legislative or administrative duties, able to stand back and get better perspective on our national problems and better able to perform two functions: (1) To pick out the key points in the national situation that need consideration; and (2) to concentrate on such points and give them the necessary study and attention.

The pamphlet enumerates three advantages which might be expected to accrue from establishing such a council. First is that of evolving a consistent and integrated national policy by which to test not only current attempts at legislation but also various enactments already in full operation. "One of the functions of such a council," the pamphlet states, "would be to endeavor to keep the development of social, economic, and political principles abreast of the movement of industry, help us take the maximum practicable advantage of our material and specialized achievements and avoid the tremendous waste of recent years." These wastes are briefly estimated in the terms of the failure of the economic system, not only to operate to the limit of the potential plenty set by our abundance of capital equipment, natural resources and human skills, but even to operate, as has been shown by the Brookings study on America's Capacity to Produce, at a rate which in periods of prosperity utilizes existing plant capacity to the full. The gain here in sight is summarized as that of "turning into human benefit and human happiness this splendid heritage of progress."

A second advantage discussed is that of reducing factionalism and class antagonism.

A great national council of the kind contemplated would probably prove to be an educational and balancing influence in our national life, counteracting tendencies to demagogism and the effects of pressure groups. There would be an inevitable seeping down of knowledge and vision from such an organization through all ranks of the Nation. * * * Thereby the knowledge and results of our research and other organizations, our universities, and the minds of our people could be run into a central pool, examined, correlated, and more efficiently utilized.

The third advantage stressed by the Senate committee print is that of keeping—

our economic system working as automatically and efficiently as possible. It seems entirely possible that it may require a higher order of skill and genius to keep our economic system satisfactorily working in a high degree automatically than to step in and try to operate it, as it were, by hand; just as an automatic machine represents greater skill and thought than one intended for hand operation. * * * The only primary and satisfactory way to avoid unnecessary regimentation or an unnecessary amount of governmental interference in the form of planned economy is to bend our efforts to the positive and constructive task of making our economic mechanism work as smoothly and evenly and automatically as possible.

The concrete task of such a National Commission on Economic Policy would be at least threefold. It would need a Bureau of Industrial Economics to keep a continuous systematized record of the way in which the whole economy is operating. That would not only mean getting and digesting the conglomerate of statistics which are now available as byproducts of administration in various executive departments of the Federal and State governments, but it would also involve keeping up-to-date records of the operation of the two or three hundred largest American corporations. Concerning these it should assemble not only the financial information now available in their annual reports and occasional profit and loss statements, but it should know what they sell, at what price they sell it, who their directors are, with what other corporations they have affiliations, and above all what contacts these corporations have with government, what government contracts or other favors they have received, etc. Without such information it will be impossible to coordinate industrial policy and national policy in a manner that will generate maximum cooperation from, and stimulus to, business enterprise.

A second task of such a National Commission on Economic Policy might well be that of giving, either on motion of Congress or on its own motion, its considered written opinion upon economic measures of current importance. After reports have been handed down and received public acceptance, a body of economic principles or precedents will have been formulated with reference to which governmental operations and legislation can be evaluated and oriented. There might then be less hasty improvisation and ad hoc legislation, less of mutual paralysis, and more of articulation and integration for maximum achievement of well-distributed large real income and full employment.

A third task of such a National Commission on Economic Policy might be to serve as a source of information to Congress. To be sure, the Library of Congress was established for this purpose. Congress gets a good deal of information from various executive departments. But frequently, if not usually, the questions asked do not wholly come under the province of any one Government department. Moreover the information and even the reports from the executive departments, particularly when furnished in order to secure appropriations, are sometimes not completely objective, if only in that they rarely understate the responsibilities and the achievements of the department concerned.

Thus can be brought to bear upon legislation the touchstone of a consistent body of economic principles; that is, a national economic policy. Legislation at the present time sometimes envisages particular points of view, the desires of pressure groups or the administrative needs of particular Government departments, rather than the general interest or the collective efficiency of government as a whole. Yet it is increasingly obvious that the central problem in a democracy in modern times is that of coordination and timely action according to a well-conceived long-range program operating in many areas toward a common objective—the objective of common welfare.

APPENDIX A

SOME METHODOLOGICAL CONSIDERATIONS

THE BASIC SERIES

The basic statistical series used to measure the performance of business are indexes showing annual changes from 1919 to 1938 in production, employment, pay rolls, dividends and interest, and consumer funds absorbed. From these certain derivative series are computed, notably one measuring changes in consumer effort commanded by the output of an industry or a segment of the economy.

The indexes of production¹ represent physical volumes of output, the concrete quantum annually of goods and services which the individual corporation, industry, or group of industries made available to consumers. Naturally, for some industrial segments measures of physical output either are not available or indeed cannot be computed. Thus production series for trade, finance, service, and government are not to be had. While the services which they render to consumers are highly useful and to no small degree indispensable, they do not produce goods measurable in terms of physical units.

The index of employment measures annual changes in the number of laborers who found an outlet for their talents and abilities, part time or whole time, in the industry or segment in question. Comparison of the movements in the production index of an industry with that of employment reveals in a rough way changes in productivity in the industry.² Insofar as possible the employment indexes have been restricted to wage earners only. However, in many cases the nature of the data made it necessary to include salaried workers as well. The coverage of each index is noted on the tables for the various industries. Particular attention should be given to the figures for agriculture where the employment series represents not only all hired workers but unpaid family workers and the working farm operators as well.

The indexes of pay rolls measure annual changes in the dollars which labor has been paid for its efforts. Such an index reflects not only changes in wage rates but also changes in the volume of employment and time worked. Thus a rise in the pay-roll index may be due to higher wage rates, a longer working week, or more regular employment throughout the year, an increase in the number of employees, or any combination of these factors. Here, too, the coverage of the index has been confined to wage earners wherever possible. For a specific industry the indexes of employment and pay roll cover the same group of workers.

¹ The revised indexes recently published by the Federal Reserve Board (see Federal Reserve Bulletin, vol. 26, No. 8, August 1940) came out too late to be utilized in this study. All production figures for individual industries refer to the old unrevised series.

² This has been done by a variety of analysts, notably Dr. Spurgeon Bell, in *Productivity, Wages, and National Income* (Brookings Institution, 1940), and Mr. David Weintraub in a series of studies published by the National Research Project, Works Progress Administration, Washington, D. C.

The dividends-and-interest series in most cases³ represents the net amounts of such payments originating in an industry. In other words, dividends and interest received by an industry have been deducted from dividends and interest paid. A word of warning should be given regarding all of the indexes of dividends and interest which are based on figures from income-tax returns to the United States Bureau of Internal Revenue. Due to changes in the law regarding the filing of consolidated income-tax returns the index numbers beginning with 1934 are not strictly comparable with those for earlier years. For that reason some of the charts show the dividend-and-interest lines⁴ broken between 1933 and 1934. The nature of the changes and their possible effects on the comparability of the series are discussed below.⁵

By consumer funds absorbed is meant the net dollar cost to the consumer of the industry in question—net, that is, after payments have been made for raw materials and the like. The concept is about the same as that which Prof. Frederick C. Mills calls “the fabrication margin,” or the “aggregate purchasing power of all agents of fabrication”; i. e., those whose rewards are received from the differential between costs of materials to manufacturers and the selling price of manufactured goods.⁶

In other words, the series for consumer funds absorbed represents an attempt to measure what an industry takes from consumers in return for the product it makes available to them after deductions have been made for what it passes on to other industries for raw material and supplies. It is believed to show changes in the dollar value of the industry's net product. Consumer funds absorbed are thus closely related to the volume of production and the price of the product. But the series does not fluctuate directly with them. For example, if an industry's output and prices remain unchanged, but its raw material costs rise, the index of consumer funds absorbed will fall. There is less left to the industry to distribute in payrolls dividends and interest, and salaries.

Unfortunately the limitations of the available data have made it impossible to be entirely consistent in the use of statistical series to represent consumer funds absorbed. For all manufacturing and for individual manufacturing industries the Census of Manufactures, figures on “value added by manufacture” have been used. For the major industrial groupings estimates of “income produced” as computed by the National Income Division of the Department of Commerce have been used. The cautions and qualifications to be observed in using these estimates will be taken up later.⁷

Closely related to the series for consumer funds absorbed are those showing consumer effort commanded. In fact, the latter indexes are derived from the former by means of Carl Snyder's index of the general price level. In other words, the indexes of consumer funds absorbed for each industry or segment have been divided by Snyder's index of the general price level, and the resultant series represent the indexes of consumer effort commanded. Snyder's index of the gen-

³ Exceptions are noted in the individual tables.

⁴ Dividends and interest for agriculture, steam railroads, telephone and telegraph, and government have been based on sources other than the Bureau of Internal Revenue.

⁵ See this appendix, pp. 128-131.

⁶ See F. C. Mills, *Prices in Recession and Recovery*, pp. 72-74.

⁷ See pp. 131-133 below.

eral price level, which is published currently in Monthly Review of Credit and Business Conditions of the Federal Reserve Bank of New York, comprises factors reflecting changes in wholesale prices of commodities, wages, cost of living, and rents. The index for the 20-year period covered in this monograph is as follows, on a 1927 base:

1919-----	101	1929-----	105
1920-----	113	1930-----	98
1921-----	95	1931-----	88
1922-----	92	1932-----	77
1923-----	96	1933-----	75
1924-----	97	1934-----	80
1925-----	99	1935-----	85
1926-----	100	1936-----	90
1927-----	100	1937-----	94
1928-----	103	1938-----	90

COMPARABILITY OF THE SERIES

In general, the six series for a given industry are comparable. In a few instances, the production indexes cover a smaller segment of the industry than the other series, but such differences are noted on the tables.

There is a fundamental difference, however, between the industrial classification for the dividends and interest figures and that for the other series. The basic data for dividends and interest have been compiled by the United States Bureau of Internal Revenue from income-tax returns of corporations. The underlying data for nearly all of the other series have come directly or indirectly from census sources, such as the Census of Manufactures, Census of Mines and Quarries, and Census of Electrical Industries. The Bureau of Internal Revenue and the Bureau of the Census have different units for classifying the returns by industries.

The Bureau of Internal Revenue's unit is a corporation,⁸ while the Census of Manufactures unit is an establishment. A single corporation may be composed of several establishments with diversified industrial activities. The Bureau of Internal Revenue classifies its returns on the basis of the predominant business of each corporation. The Census of Manufactures, on the other hand, classifies each establishment on the basis of its product or group of products of chief value. Unfortunately, there is no way of evaluating the magnitude of the differences which result from this difference in units of classification.

Moreover, the nature of the data collected by the Census of Manufactures gives rise to some degree of inconsistency within a single series. The years primarily affected are 1919 and 1933. The 1919 census was the last one which included data for establishments with products valued at less than \$5,000.⁹ Therefore, the figures for 1919 are to some extent overstatements in comparison with the other years. On the other hand, the 1933 census understates the volume of business in that year because the limited field force canvassing the industries was not able to make complete coverage. The census has

⁸ See p. 128 in this appendix for discussion of consolidated returns and their effect on the industrial classification.

⁹ The lumber and timber products industry was handled differently. See p. 156.

estimated that for manufacturing as a whole less than 1 percent of the wage earners were in establishments not included in the census although in some industries the percentage was higher. It rarely exceeded 3 percent of the wage earners and in the great majority of industries did not exceed 1.5 percent.¹⁰

THE BASE PERIOD

Wherever possible the average for the years 1923-25, inclusive, has been used as the base period. In that period the economy experienced 2 years of prosperity and one of unusually mild depression. The period has been widely used as a base with which to compare the hectic years of boom and bust that followed.

In a considerable number of industries, however, not all the figures are available back that far. For instance, the Bureau of Internal Revenue did not begin tabulating the figures on dividends and interest for minor industrial divisions until 1926 and for some industries until 1927. For those sections, that is, for the majority of the subdivisions of manufacturing and mining, 1927 was used as a base year, merely because it was the earliest year for which all series were obtainable. In every chart, however, some of the series go back at least as far as 1923, so it is possible to get a rough idea of the changes in the industry since that time even though it was not possible to use 1923-25 as a base in all cases.

THE DIVIDENDS AND INTEREST FIGURES

As was stated above, considerable difficulty was experienced in securing satisfactory figures of dividends and interest payments. The basic data with few exceptions¹¹ have been compiled by the Bureau of Internal Revenue from income-tax returns of corporations. These figures have been adjusted and extrapolated in various ways by the National Bureau of Economic Research and the Department of Commerce and it is the resulting series which have been used in the present study for the major industrial classifications. For individual industries, the Bureau of Internal Revenue figures are presented without adjustment. No attempt has been made to extend the data for these individual industries back of 1926 or beyond 1936. The figures for minor industrial divisions have not been published by the Bureau but are compiled in a "source book" maintained by the Income Tax Unit of the Statistical Section of the Bureau. These data were made available through the courtesy of Guy T. Helvering, Commissioner of Internal Revenue.

The primary adjustments made were those necessary to eliminate intercorporate dividend and interest payments. The National Bureau describes its estimates of dividend and interest payments as follows:

Dividend payments as measured here cover disbursements to individuals, and thus exclude the intercorporate dividend flow; interest payments cover interest on long-term debt alone, upon the assumption that all short-term interest is paid to other business enterprises and that short-term interest paid to individuals by banks represents an indirect flow of long-term interest. The only allowance for all industries for intercorporate long-term interest payments is interest on Government securities.¹²

¹⁰ See Biennial Census of Manufactures 1933, pp. 3-4.

¹¹ Agriculture, telephone and telegraph, steam railroads, and government.

¹² F. non Kuznets, *National Income and Capital Formation, 1919-35* (New York, 1937), p. 23.

The Department of Commerce has made similar assumptions in its estimates:

The figures of dividend and interest payments include only payments to individuals or aggregates of individuals. A break-down of dividend and interest payments between those which flow to individuals or aggregates of individuals and those which flow to other business enterprises cannot be obtained from available source material. It is necessary, therefore, to resort to indirect methods, and the estimates are arrived at by deducting dividend and interest receipts of corporations from dividend and interest payments by corporations. * * *

Estimates of interest included in the income figures are confined to interest on long-term obligations. Interest on short-term obligations is regarded as payment to other business enterprises, primarily banks, for an intangible raw material, namely, the use of credit. It is an interindustrial payment, and as such is eliminated in arriving at a net unduplicated national income figure. The corporate sample is used to derive average interest rates, which are applied to corporate funded debt and mortgage figures taken from Statistics of Income. It is assumed that there are no funded debt or mortgage obligations of unincorporated business enterprises. This assumption is not entirely substantiated in fact, but the resulting error is undoubtedly small. Interest received by corporations, which is deducted from interest paid by corporations to arrive at net interest originating in corporations, is taken from Statistics of Income and is confined to tax-exempt interest received by corporations. Interest received on tax-exempt obligations is the only item shown separately in the Statistics of Income for long-term interest received, and is used as total long-term interest received on the assumption that long-term debt holdings of corporations are confined to Government obligations. It is apparent that this is a questionable assumption, and studies to determine necessary corrections are contemplated.¹³

In the case of individual industries for which neither the National Bureau nor Department of Commerce show series, complete reliance has been placed on the figures of the Bureau of Internal Revenue. Dividends and interest received have been deducted from dividends and interest paid. This does not duplicate precisely the adjustments made by the National Bureau and Department of Commerce, but it approximates their methodology as nearly as is possible with the information at hand.

As was noted earlier, practically all ¹⁴ of the dividends and interest series have this fault in common: the figures for 1934 and subsequent years are not comparable with those for 1933 and earlier years. The reason is to be found in the fact that under the Revenue Act of 1934 the privilege of filing consolidated returns, except by railroads, was discontinued. Prior to this time an affiliated group of corporations was allowed to file a single consolidated return. Beginning with 1934, each subsidiary or affiliate filed a separate return.

This change in the law has had two marked effects on the comparability of the statistics. In the first place, many items increased in size because "intercompany eliminations" were made in the consolidated returns. For example, dividends and interest received by all corporations rose correspondingly with dividends and interest paid by all corporations. However, the method followed of deducting dividends and interest received from dividends and interest paid minimizes the discrepancy arising from this source.

A more important source of discrepancy is that due to the resultant shifts of the corporate population among the various industrial categories. The consolidated returns submitted for 1933 and earlier years were classified on the basis of the predominant industrial activity of the consolidated group. Since 1934, however, the returns

¹³ Robert R. Nathan, *Income in the United States, 1929-37*, Department of Commerce (Washington, 1938), pp. 8 and 11.

¹⁴ The exceptions are agriculture, telephone and telegraph, steam railroads, and Government.

have been classified according to the predominant activity of each subsidiary or affiliate, which in many instances was different from that of the consolidated group.

The magnitude of the shifts varies from one industrial classification to another. The Bureau of Internal Revenue has published separate tabulations for 1934 for the 24,458 corporations which filed consolidated returns in 1933. These returns for 1934 were classified on two bases: (a) The business classifications of the corporations in 1933, and (b) the business classifications of the same corporations in 1934. From these figures the change in "net" dividends and interest have been computed for all corporations ¹⁵ (those which did not file consolidated returns in 1933 as well as those which did) on the basis of the 1933 and 1934 business classifications. The results which are shown in table A below give some basis for evaluating the extent of the changes in industrial classification as they affect dividends and interest.

TABLE A.—Comparison of "net" dividends and interest in all industries in 1934 on basis of 1934 and 1933 industrial classification

(Dollar items in thousands)

Industry	All returns, 1934 basis ¹	Consolidated returns		All 1934 returns, 1933 basis (1) - (2) + (3)	Ratio of 1934 basis to 1933 basis for all returns - (1) ÷ (4)
		1934 basis ²	1933 basis ³		
	(1)	(2)	(3)	(4)	(5)
Aggregate.....	\$2,738,501	\$1,980,600	\$1,980,600	\$2,738,501	1.000
Agriculture and related industries.....	36,837	12,297	9,985	34,525	1.067
Mining and quarrying.....	241,706	139,494	60,372	162,584	1.487
Total manufacturing.....	1,376,327	571,195	644,770	1,449,902	.949
Food and kindred products.....	251,807	111,788	72,951	212,970	1.182
Liquors and beverages.....	29,068	2,982	3,244	29,330	.991
Tobacco products.....	87,237	871	712	87,078	1.002
Textiles and their products.....	112,175	20,620	19,117	110,702	1.013
Leather and its manufactures.....	23,233	4,398	5,226	24,061	.966
Rubber products.....	8,165	4,476	15,078	18,717	.436
Forest products.....	46,925	15,591	17,158	48,492	.968
Paper, pulp, and products.....	52,442	17,135	18,936	54,243	.967
Printing, publishing, etc.....	76,786	17,795	17,573	76,504	1.003
Chemicals and allied products.....	187,299	57,694	190,848	320,453	.584
Stone, clay, and glass products.....	47,511	13,360	14,656	48,807	.973
Metal and its products.....	418,000	285,559	250,019	382,460	1.093
Manufacturing not elsewhere classified.....	35,679	18,933	19,271	36,017	.991
Construction.....	20,861	4,583	2,948	19,226	1.085
Transportation and other public utilities.....	2,112,356	1,403,987	1,292,547	2,000,916	1.056
Trade.....	392,285	130,335	74,593	336,543	1.166
Service.....	209,607	60,929	42,836	191,514	1.094
Finance.....	-1,652,790	-342,819	-148,136	-1,458,107	1.134
Nature of business not given.....	1,311	590		1,408	
1933 industrial activity not available.....			687		

¹ U. S. Bureau of Internal Revenue, Statistics of Income for 1934, pt. 2, table 2. Dividends and interest received have been deducted from dividends and interest paid.

² The same, table 10, showing "net" dividends and interest paid in 1934 by 24,458 corporations classified on 1934 basis of principal business of subsidiary.

³ The same, table 13, showing what would have been reported if these 24,458 corporations had been classified on 1933 basis of principal business of the consolidation.

The most marked industrial shifts occurred in the mining and quarrying, rubber products, and chemicals and allied groups. The dividends and interest index for the first would show a sharp rise in

¹⁵ The method followed in table A assumes that the industrial classification of all of the corporations which did not file consolidated returns in 1933 was the same in 1934 as in 1933. This is not strictly true, but probably does not affect the validity of the comparison.

1934 over 1933 merely as a result of the changes in the basis of classification. In the latter two, the indexes would show a decline. The discrepancies are less pronounced in food and kindred products, trade, and finance, but are nevertheless significantly large.

Unfortunately, the industrial groupings in this table are broader than have been used elsewhere in this study. It is likely that the discrepancies are even more extreme for some of the smaller industrial subdivisions. The Bureau of Internal Revenue has made special tabulations for the Department of Commerce, which give slightly more detail for "net" dividends only. Several subdivisions of mining and quarrying have been selected from this tabulation and are shown in table B.¹⁶

All of the mining subdivisions except anthracite coal show marked differences in dividends as a result of the changed bases for classification, particularly oil and gas and bituminous coal. Unfortunately, no other series representing dividends and interest for these industries are available. In interpreting the charts for these industries, therefore, the fact is repeatedly stressed that part of the rise or fall in dividends and interest since 1934 is the result of changes in the method of compiling the statistics.

TABLE B.—Comparison of "net" dividends in selected industries in 1934 on basis of 1934 and 1933 industrial classification

Industry	"Net" dividends (thousands) ¹		Ratio of 1934 basis to 1933 basis (1) ÷ (2)
	1934 basis (1)	1933 basis ² (2)	
Mining and quarrying.....	\$190, 386	\$114, 761	1. 659
Anthracite coal.....	2, 678	2, 671	1. 003
Bituminous coal.....	28, 124	15, 411	1. 825
Metal mining.....	31, 594	39, 914	. 792
Nonmetal.....	30, 656	25, 603	1. 197
Oil and gas.....	97, 332	31, 164	3. 123

¹ Special tabulations made for the Department of Commerce by the U. S. Bureau of Internal Revenue; dividends received have been deducted from dividends paid.

² This column was estimated by following the procedure indicated in the computation of column (4) table A.

THE CONSUMER FUNDS ABSORBED FIGURES

The dire lack of uniform statistical data has necessitated the use of two types of series to represent consumer funds absorbed: "Income produced" and "value added by manufacture." For the subdivisions of mining and quarrying, i.e., coal mining, metal mining, and oil and gas producing, neither of these series was available.¹⁷ In place of series for consumer funds absorbed on the charts for these industries, therefore, indexes of "value of products" are shown. Similarly indexes of "net sales" were used in the case of individual corporations. Estimates of "income produced" have been used for all of the major industrial groupings except manufacturing, and for the subdivisions of transportation and other public utilities. For all manufacturing

¹⁶ These figures have been made available through the courtesy of Mr. Robert R. Nathan, Chief of the National Income Division, Department of Commerce.

¹⁷ "Income produced" estimates were available beginning in 1929, but they could not be related to the base period.

and the subdivisions of manufacturing, the indexes have been based on "value added by manufacture."

"Income produced" is a concept developed in connection with estimates of national income, and as has been noted above, does not conform exactly with the concept of consumer funds absorbed. For "national income produced," as defined by the Department of Commerce, is a—

measure of the net value of all commodities produced and all services rendered in the country in each year. This total can be described as representing the gross value of all goods and services produced, minus the value of all raw materials and capital equipment consumed in the processes of production (i.e., depreciation and obsolescence). It may also be designated as the value of goods and services consumed plus the value of additions to the national wealth during the year.¹⁸

The principal objection to using "income produced" as a measure of consumer funds absorbed arises not from differences in concept but from the way it has to be computed. "Income produced" is derived by adding positive business savings to, or deducting negative business savings from, income paid out. "Income paid out" is the summation of wages, salaries, and other labor income, dividends, interest, entrepreneurial withdrawals and net rents and royalties. "Business savings" is the questionable item because it includes such things as write-ups of assets or inventories which result from accounting practices rather than actual changes in the economic structure of an industry. The Department of Commerce is well aware of the shortcomings of their estimates in this respect, but the limitations of the basic statistical data prevent the elimination of these accounting items.¹⁹

"Income produced," of course, includes dividends and interest. These series are therefore affected by the industrial shifts in dividends and interest resulting from the changes in the income-tax law in 1934. However, the disparities are less significant in the "income produced" series than in dividends and interest because the other payments included in "income produced" exert a steadying influence. The estimate of "income produced" for 1934 in all industries is based on the 1934 industrial classification of dividends and interest. Strictly speaking, therefore, beginning in 1934 the figures for consumer funds absorbed, which are based on "income produced," are not completely comparable with those for 1933 and earlier years.

"Value added by manufacture," which is the second type of series used to represent consumer funds absorbed, is the increment created by the manufacturing processes. It measures the net addition to the value of commodities already in existence, i. e., raw materials, semimanufactured materials, and fuel. The Census of Manufactures calculates this value by deducting the cost of materials, containers, fuel, and purchased electric energy used from the value of products.²⁰

It is apparent from these brief descriptions of "income produced" and "value added" that the methods of calculation used give somewhat different results. "Income produced" is obtained by adding specified items and "value added" by deducting certain costs. "Income produced" for all manufacturing industries combined is therefore smaller than "value added by manufacture" as shown by the

¹⁸ Robert R. Nathan, *op. cit.*, p. 3.

¹⁹ For further discussion on this point see Nathan, *op. cit.*, pp. 4-8.

²⁰ In 1937 the census began deducting cost of contract work, also, to arrive at "value added," but except in a few industries in which cost of contract work could be deducted for the entire period, it has been included in order to make the "value added" figures consistent throughout the period. The exceptions are noted in appendix B on the respective tables for the industries affected.

census for it excludes a number of costs such as taxes, rent, insurance, and telephone, which are included in "value added."

"Value added by manufacture" not only differs from "income produced," but it is available only for manufacturing industries and for census years. Hence the "income produced" figures of the Department of Commerce and National Bureau of Economic Research have been used except for manufacturing and its subdivisions because they afford the most consistent and complete estimates available for all the major industrial segments. Since the data are presented as index numbers rather than the actual amounts of consumer funds absorbed, it is believed that the "income produced" figures are representative of the trend in consumer funds absorbed since 1919. Obviously, insofar as the discrepancy did not vary from year to year, the indexes are not affected.

THE INDUSTRIES SELECTED FOR STUDY

The tables presented in appendix B, like the charts and discussion in the text, can be divided into three broad classifications: Those giving the basic data for individual industries, those giving data for major economic segments or groups of industries, and those giving the figures for individual companies and for all corporations. Two considerations have been paramount in the selection and grouping of industries and companies. In the first place, both the major industrial groups and the individual industries and companies have been selected for study because of their size and importance in the national economy. In the second place, obviously the only statistics usable are those which afford reasonably comparable series. The study was severely limited in its scope by the dearth of statistical information.

Thus a large range of industries, especially of large corporations, had to be omitted. In the latter instance only 3 out of 200 or more are considered. But vitally important industries, such as the rayon industry and the manufacture and distribution of gas, have also been excluded because of numerous vital gaps in the statistical data. Similarly, while considerable preliminary work was done on the rubber tires and tubes and silk and rayon goods industries, the former was not included for presentation because the dividends and interest series was highly unreliable, and the latter was left out because changes in the census classification affected the comparability of the data beyond possibility of satisfactory adjustment.

Moreover, some industries are presented in combinations which have been governed by the form of the statistics rather than by the similarity of their economic behavior. Thus the combination of baking and confectionery is a marriage of statistical convenience. The dividends and interest series was available only for the two together. Hence the other series, while available for each of them, were combined, despite the fact that analytical convenience and economic considerations make preferable a discussion of the baking industry by itself.

For the major industrial groups the classification follows in the main that adopted by the National Income Division of the Department of Commerce. The scope of each group is shown in the footnotes to the respective tables given in appendix B.²¹

²¹ For greater detail consult U. S. Department of Commerce, *National Income in the 1929-35*.

APPENDIX B

STATISTICAL TABLES

Data basic to charts in the text showing employment, production, pay rolls, dividends and interest, consumer funds absorbed and consumer effort commanded are given for the following industries, industry groups, or companies:

I. Baking and Confectionery.	XXIII-A. Employment and Labor Income of Family Workers and Hired Workers.
II. Knit Goods.	XXIV. All Manufacturing.
III. Canning and Preserving.	XXV. Mining.
IV. Agricultural Implementments.	XXVI. Transportation and Other Public Utilities.
V. Petroleum Refining.	XXVII. Construction.
VI. Automobile.	XXVIII. Government.
VII. Boot and Shoe.	XXIX. Finance.
VIII. Slaughtering and Meat Packing.	XXX. Service.
IX. Cotton Goods.	XXXI. Trade.
X. Woolen and Worsted Goods.	XXXII. General Motors Corporation.
XI. Chemical.	XXXIII. United States Steel Corporation and Subsidiaries.
XII. Electric Light and Power.	XXXIV. Bell System.
XIII. Iron and Steel.	XXXV. Telephone and Telegraph.
XIV. Paper and Pulp.	XXXVI. Interest, Taxes, and Cash Dividends.
XV. Flour and Other Grain Mill Products.	XXXVII. Employment, Production, and National Dividend.
XVI. Oil and Gas Producing.	XXXVII-A. National Income, Labor Income, and Dividends and Interest.
XVII. Furniture.	
XVIII. Metal Mining.	
XIX. Tobacco.	
XX. Coal Mining.	
XXI. Lumber and Timber Products.	
XXII. Steam Railroads.	
XXIII. Agriculture.	

TABLE I.—*Social performance of the baking and confectionery industry, 1921-38*

[1927 = 100]

Year	Employment ¹	Production ²	Consumer effort commanded ³	Consumer funds absorbed ⁴	Pay rolls ¹	Dividends and interest ⁵
Amount in base year.....	235, 158	-----		\$ 875, 019	\$ 293, 206	\$ 75, 285
1919.....	(?)	(?)	(?)	(?)	(?)	(?)
1920.....	(?)	(?)	(?)	(?)	(?)	(?)
1921.....	(?)	(?)	75.9	72.1	(?)	(?)
1922.....	(?)	(?)	(?)	(?)	(?)	(?)
1923.....	96.1	(?)	84.8	81.4	92.0	(?)
1924.....	95.4	(?)	(?)	(?)	94.1	(?)
1925.....	95.2	89.6	89.3	88.4	93.7	(?)
1926.....	98.1	98.3	(?)	(?)	97.6	88.2
1927.....	100.0	100.0	100.0	100.0	100.0	100.0
1928.....	103.7	102.0	(?)	(?)	103.5	106.8
1929.....	112.3	105.8	105.2	110.5	112.9	100.9
1930.....	108.3	104.7	(?)	(?)	109.8	112.4
1931.....	99.5	94.3	107.0	94.2	95.8	90.0
1932.....	93.6	85.7	(?)	(?)	80.2	75.2
1933.....	98.9	84.4	89.9	67.4	78.5	56.6
1934.....	111.9	93.2	(?)	(?)	93.4	78.3
1935.....	114.9	98.7	90.2	76.7	98.3	72.3
1936.....	118.6	104.2	(?)	(?)	103.9	85.4
1937.....	124.6	108.0	100.0	94.0	115.3	(?)
1938.....	121.5	(?)	(?)	(?)	113.4	(?)
1939.....	(?)	(?)	(?)	(?)	(?)	(?)

¹ U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners. The indexes for "Baking" and "Confectionery" have been combined by using weights based on the average number of wage earners and average weekly pay rolls in the respective industries in 1923-25.

² Indexes for "Bread and other bakery products" and "Confectionery" shown in the National Research Project, *Production, Employment, and Productivity in 59 Manufacturing Industries*, Part 2, pp. 18 and 58, have been combined by using weights based on the respective value of products in these industries in 1923 and 1925. The indexes were extended through 1937 by means of Census of Manufactures data.

³ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁴ Value added by manufacture, as computed by the Census of Manufactures for "Bread and other bakery products" and "Confectionery."

⁵ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.

⁶ Thousands of dollars.

⁷ Comparable data not available.

TABLE II.—*Social performance of the knit goods industry, 1919-38*¹

[1927=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁷
Amount in base year.....	190,283			⁷ \$381,360	⁷ \$188,163	⁷ \$22,906
1919.....	90.7	71.4	72.1	72.8	66.5	(⁸)
1920.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)
1921.....	85.1	76.5	73.1	69.4	70.2	(⁸)
1922.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)
1923.....	102.0	93.0	93.9	90.1	89.5	(⁸)
1924.....	91.2	(⁸)	(⁸)	(⁸)	79.2	(⁸)
1925.....	98.1	96.8	90.1	89.2	89.7	(⁸)
1926.....	98.4	(⁸)	(⁸)	(⁸)	93.5	92.8
1927.....	100.0	100.0	100.0	100.0	100.0	100.0
1928.....	101.7	(⁸)	(⁸)	(⁸)	101.1	99.6
1929.....	109.6	117.4	107.1	112.5	112.1	107.6
1930.....	100.2	(⁸)	(⁸)	(⁸)	94.5	85.7
1931.....	93.5	108.7	86.1	75.8	79.5	50.8
1932.....	91.5	(⁸)	(⁸)	(⁸)	66.5	31.7
1933.....	99.6	115.8	87.1	65.3	70.2	31.6
1934.....	106.9	(⁸)	(⁸)	(⁸)	86.0	42.4
1935.....	114.5	129.3	89.8	76.3	97.2	47.9
1936.....	118.4	(⁸)	(⁸)	(⁸)	100.7	75.0
1937.....	120.4	130.9	92.2	86.7	104.8	(⁸)
1938.....	107.6	(⁸)	(⁸)	(⁸)	92.9	(⁸)
1939.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ Changes in the classification of establishments placed by the Census of Manufactures in the knit-goods industry has necessitated numerous adjustments in order to secure comparable figures throughout the period. The production index computed by the National Research Project was altered slightly in 1933 and 1935 because of revisions in census data, and an estimate was made for 1937. The index for knit goods is composed of indexes for 4 subgroups of products: Hosiery, knitted underwear, knitted outerwear, and knit cloth. Unfortunately, census changes made it impossible to continue the index for knit cloth after 1931 and for the same reason there were no figures for knitted underwear in 1937 comparable with earlier years. For the census years 1925-37, therefore, an index was constructed for hosiery and underwear, following the method devised by the National Research Project and the 2 indexes compared for the overlapping years 1929-35. Our index was adjusted downward by the ratio of the National Research Project index for all 4 products to the new index for hosiery and outerwear in 1931, the last year for which data were available for all 4 products.

Similarly with respect to data on employment and pay rolls the Bureau of Labor Statistics published composite indexes for knit goods from 1923 until 1937, discontinuing them when they adjusted their indexes to the 1937 Census of Manufactures. They continued, however, to publish indexes for the 4 subgroups: Hosiery, underwear, outerwear, and knit cloth. Thus it was possible to combine these by using the same weights the Bureau of Labor Statistics used for earlier years. The census altered the hosiery classification in 1935 and consequently the indexes of employment and pay rolls in the knit-goods industry for 1935 and 1937 are not completely comparable with those for earlier years. The change in classification involved transferring dyers and finishers of hosiery knitted by others from the dyeing and finishing textiles industry to the hosiery industry.

The series showing consumer funds absorbed computed from the figures for "Value added by manufacture" has likewise been affected in 1935 and 1937 by the addition of dyers and finishers of hosiery. There is an additional source of inconsistency in the figure for 1937. Contract work is of considerable importance in this industry. The cost of contract work has throughout been subtracted from value added by manufacture. But the 1937 figures for contract work are not strictly comparable with those for earlier years because the cost of commission knitting and interplant transfer charges were excluded from the census figures. The amount, however, is relatively small.

² U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners for all years except 1919 and 1921, which were estimated from Census of Manufactures data.

³ Figures for 1919-31 from National Research Project, Production, Employment, and Productivity in 59 Manufacturing Industries, Part 2, p. 107. The method devised by the National Research Project has been used to continue the index through 1937; revisions of census data account for differences between the figures presented here and those computed by the National Research Project for 1933 and 1935.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Value added by manufacture as computed by the Census of Manufactures. Cost of contract work has been excluded throughout the period.

⁶ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE III.—*Social performance of the canning and preserving industry, 1919-38*¹

[1927=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and Interest ⁷
Amount in base year.....	93,574	-----	-----	† \$239,357	† \$70,415	† \$31,250
1919.....	96.1	78.2	89.2	90.1	94.4	(⁸)
1920.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)
1921.....	63.8	50.4	62.5	59.4	59.8	(⁸)
1922.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)
1923.....	87.2	86.0	102.7	98.6	90.0	(⁸)
1924.....	77.6	83.8	(⁸)	(⁸)	79.9	(⁸)
1925.....	103.0	106.0	106.5	105.4	106.1	(⁸)
1926.....	(⁸)	113.9	(⁸)	(⁸)	(⁸)	(⁸)
1927.....	100.0	100.0	100.0	100.0	100.0	100.0
1928.....	(⁸)	119.6	(⁸)	(⁸)	(⁸)	91.3
1929.....	120.2	121.7	125.7	132.0	119.0	107.8
1930.....	123.9	129.0	(⁸)	(⁸)	113.6	134.0
1931.....	94.7	102.7	97.3	85.6	84.2	103.3
1932.....	76.9	76.0	(⁸)	(⁸)	59.8	87.0
1933.....	100.6	105.4	103.6	77.7	70.7	60.2
1934.....	128.3	111.3	(⁸)	(⁸)	91.9	80.9
1935.....	138.4	140.6	123.7	109.4	109.3	108.2
1936.....	146.9	(⁸)	(⁸)	(⁸)	111.0	149.7
1937.....	165.8	156.3	142.2	133.7	144.0	(⁸)
1938.....	136.3	(⁸)	(⁸)	(⁸)	113.6	(⁸)
1939.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ The industry is highly seasonal. Thus the amount of employment tends to remain high when compared with production and pay rolls which reflect part-time operations. See Biennial Census of Manufactures, 1935, p. 77.

² U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners for all years except 1919 and 1921 which have been computed from the Census of Manufactures.

³ Figures for 1919-35 from National Research Project, Production, Employment, and Productivity in 59 Manufacturing Industries, Part 2, p. 28. The index was extended through 1937 by means of Census of Manufactures data on production.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Value added by manufacture as computed by the Census of Manufactures.

⁶ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE IV.—*Social performance of the agricultural implements industry, 1920-38*¹

[1927=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁷
Amount in base year.....	51,700			⁷ \$215,657	⁷ \$75,400	⁷ \$23,716
1919.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)
1920.....	(⁸)	119.9	(⁸)	(⁸)	(⁸)	(⁸)
1921.....	(⁸)	51.9	54.5	51.8	(⁸)	(⁸)
1922.....	(⁸)	47.1	(⁸)	(⁸)	(⁸)	(⁸)
1923.....	94.9	69.8	70.9	68.1	90.5	(⁸)
1924.....	74.8	62.7	(⁸)	(⁸)	70.3	(⁸)
1925.....	88.7	78.5	80.0	79.2	85.7	(⁸)
1926.....	101.5	96.0	(⁸)	(⁸)	102.0	68.5
1927.....	100.0	100.0	100.0	100.0	100.0	100.0
1928.....	113.7	104.0	(⁸)	(⁸)	115.6	79.3
1929.....	125.3	128.7	134.4	141.1	126.9	134.4
1930.....	99.2	103.9	(⁸)	(⁸)	88.7	132.0
1931.....	56.7	35.5	51.9	45.7	42.8	76.6
1932.....	31.4	(⁸)	(⁸)	(⁸)	19.3	58.0
1933.....	37.3	10.8	22.3	16.7	24.7	27.8
1934.....	62.2	(⁸)	(⁸)	(⁸)	44.5	28.1
1935.....	102.4	75.2	82.8	70.4	85.4	22.3
1936.....	122.9	113.1	(⁸)	(⁸)	111.4	112.7
1937.....	150.1	137.5	138.3	130.0	161.7	(⁸)
1938.....	109.2	109.9	(⁸)	(⁸)	109.2	(⁸)
1939.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ Tractors are included in this table. This made necessary 2 kinds of adjustments. In the first place, the index of agricultural implement production of the National Research Project does not include tractors. Consequently the National Research Project index was related to value of products in 1929, excluding tractors. To this was added the weighted aggregate value of wheel, tracklaying, and garden tractors produced in each year. The average unit value in 1929 for each type of tractor was used to compute the weight in each instance. Since all of the value figures were obtained by weighting production of various types of implements by their unit values in 1929, the value figures could be converted into an index of production merely by relating them to a base year, which in this case was 1927. The production figures for tractors were obtained from Bureau of the Census reports on Manufacture and Sale of Farm Equipment and Related Products for the respective years.

In the second place, the series for consumer funds absorbed also had to be adjusted because the Census of Manufactures did not classify tractors with agricultural implements prior to 1931. "Value of products" for tractors for the period prior to 1931 had to be obtained from the annual reports, Manufacture and Sale of Farm Equipment and Related Products. These were then converted to "value added" figures by applying the weighted average of the ratio of "value added" to "value of products" for tractors as reported by the Census of Manufactures in 1931 and 1933. This estimated series of "value added" for tractors was added to the Census of Manufactures figures for "value added" for agricultural implements, excluding tractors. The resulting series for 1919-31 was adjusted to conform with census figures for 1931-37 by means of the ratio of census to estimated "value added" in 1931, the year in which the 2 series overlapped.

² U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners.

³ For 1920-36 the index of production for agricultural implements, excluding tractors, computed by the National Research Project, Production, Employment, and Productivity in 59 Manufacturing Industries, Part 2, p. 4, has been adjusted by means of census data to include tractors. The series has been extended through 1938 by means of Bureau of the Census, Manufacture and Sale of Farm Equipment and Related Products, 1938, pp. 3-6.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Value added by manufacture as computed by the Census of Manufactures. The figures prior to 1931 have been adjusted to include tractors, which prior to that time were included with "Engines, turbines tractors, etc."

⁶ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE V.—*Social performance of the petroleum refining industry, 1919–33*

[1927=100]

Year	Employment ¹	Production ²	Consumer effort commanded ³	Consumer funds absorbed ⁴	Pay rolls ⁵	Dividends and interest ⁶
Amount in base year.....	71,234	-----	-----	⁶ \$389,651	⁶ \$113,717	⁶ \$184,142
1919.....	82.7	40.0	97.7	98.7	78.9	(?)
1920.....	(?)	47.0	(?)	(?)	(?)	(?)
1921.....	88.7	47.0	93.3	88.6	90.0	(?)
1922.....	(?)	54.0	(?)	(?)	(?)	(?)
1923.....	93.7	63.0	98.5	94.6	91.4	(?)
1924.....	87.4	73.0	(?)	(?)	84.5	(?)
1925.....	91.8	85.0	126.3	125.0	92.1	(?)
1926.....	100.8	93.0	(?)	(?)	100.7	108.4
1927.....	100.0	100.0	100.0	100.0	100.0	100.0
1928.....	95.3	112.0	(?)	(?)	96.8	155.1
1929.....	113.2	124.0	126.4	132.8	115.5	152.5
1930.....	113.6	118.0	(?)	(?)	116.5	195.8
1931.....	96.6	114.0	91.5	80.5	94.5	163.6
1932.....	89.8	103.0	(?)	(?)	78.2	82.3
1933.....	96.9	107.0	107.5	80.6	79.0	88.1
1934.....	109.0	112.0	(?)	(?)	91.0	(?)
1935.....	108.6	121.0	108.8	92.5	96.4	(?)
1936.....	110.8	135.0	(?)	(?)	102.9	114.5
1937.....	116.7	150.0	133.6	125.6	123.5	(?)
1938.....	110.0	147.0	(?)	(?)	121.6	(?)
1939.....	(?)	(?)	(?)	(?)	(?)	(?)

¹ U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners for all years except 1919 and 1921 which were estimated from Census of Manufactures data.

² Federal Reserve Board index of production.

³ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁴ Value added by manufacture as computed by the Census of Manufactures.

⁵ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.

⁶ Thousands of dollars.

⁷ Comparable data not available.

NOTE.—Due to a change in the method of reporting fuel consumed in 1929, the census estimated that the amounts shown for value added by manufacture in other years were understated between 15 and 20 percent as compared with 1929. The amount of value added by manufacture, as shown by the census in 1929, has, therefore, been reduced by 15 percent in order to make it more comparable with other years. (See Census of Manufactures, 1931, p. 671.)

TABLE VI.—*Social performance of the automobile industry, 1919–38*¹

[1927=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁷
Amount in base year.....	269,399			⁷ \$1,469,136	⁷ \$612,955	⁷ \$233,529
1919.....	92.9	49.2	76.8	77.6	80.1	(⁸)
1920.....	(⁸)	55.7	(⁸)	(⁸)	(⁸)	(⁸)
1921.....	57.6	39.7	54.3	51.6	52.0	(⁸)
1922.....	(⁸)	62.6	(⁸)	(⁸)	(⁸)	(⁸)
1923.....	109.5	98.9	103.9	99.7	107.8	(⁸)
1924.....	101.8	88.6	(⁸)	(⁸)	97.1	(⁸)
1925.....	115.1	109.7	120.4	119.2	116.6	(⁸)
1926.....	114.0	116.0	(⁸)	(⁸)	112.3	97.5
1927.....	100.0	100.0	100.0	100.0	100.0	100.0
1928.....	117.6	127.7	(⁸)	(⁸)	122.1	121.4
1929.....	121.1	153.8	129.8	136.3	119.6	100.1
1930.....	87.4	100.2	(⁸)	(⁸)	70.4	98.8
1931.....	77.3	73.2	73.6	64.8	57.2	74.2
1932.....	65.8	46.2	(⁸)	(⁸)	41.6	30.7
1933.....	65.9	62.9	58.8	44.1	41.1	30.4
1934.....	93.1	86.6	(⁸)	(⁸)	69.1	37.5
1935.....	105.0	119.5	90.1	76.6	89.0	41.7
1936.....	109.9	131.2	(⁸)	(⁸)	102.2	120.3
1937.....	129.8	141.0	109.4	102.8	123.4	(⁸)
1938.....	76.6	74.0	(⁸)	(⁸)	68.8	(⁸)
1939.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ Motor vehicles and motor-vehicle bodies and parts, not including motorcycles. The Bureau of Labor Statistics adjusted its figures on employment and pay rolls to the census trend through 1933, but did not thereafter because the automobile firms reporting to the Bureau cover broader activities than are represented by the census totals. The adjustment was made here so that the employment and pay rolls series would correspond more closely with the data on consumer funds absorbed and the figures on production both of which have been derived from census figures.

² U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners for 1923-33, inclusive. Beginning in 1934 the figures are appreciably lower than those published by the Bureau of Labor Statistics because they have been adjusted to conform to the trend shown by the figures of the Census of Manufactures. The indexes for 1919 and 1921 are based on the Census of Manufactures.

³ Figures for 1919-36 from National Research project, Production, Employment and Productivity in 59 Manufacturing Industries, Part. 2, p. 144. The series was extended through 1938 by means of the Federal Reserve Board index of production.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Value added by manufacture as computed by the Census of Manufactures.

⁶ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE VII.—*Social performance of the boot and shoe industry, 1919-38*¹

[1927=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁷
Amount in base year.....	203, 110	-----	-----	7 \$450, 161	7 \$225, 090	7 \$20, 037
1919.....	103. 9	91. 5	96. 7	97. 7	93. 6	(⁸)
1920.....	(⁸)	86. 0	(⁸)	(⁸)	(⁸)	(⁸)
1921.....	90. 3	78. 0	90. 9	86. 4	91. 1	(⁸)
1922.....	(⁸)	88. 5	(⁸)	(⁸)	(⁸)	(⁸)
1923.....	110. 9	95. 2	109. 4	105. 0	111. 2	(⁸)
1924.....	101. 2	85. 3	(⁸)	(⁸)	98. 5	(⁸)
1925.....	101. 8	87. 5	99. 6	98. 6	100. 3	(⁸)
1926.....	100. 0	91. 4	(⁸)	(⁸)	99. 3	117. 8
1927.....	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
1928.....	97. 0	99. 8	(⁸)	(⁸)	94. 3	173. 2
1929.....	101. 2	104. 0	95. 4	100. 2	98. 8	146. 7
1930.....	94. 4	86. 4	(⁸)	(⁸)	80. 9	157. 9
1931.....	89. 2	87. 3	79. 9	70. 3	72. 5	118. 3
1932.....	88. 4	86. 4	(⁸)	(⁸)	60. 2	86. 5
1933.....	93. 9	97. 8	79. 1	59. 3	63. 1	75. 5
1934.....	99. 4	99. 4	(⁸)	(⁸)	75. 3	80. 9
1935.....	99. 5	107. 1	82. 0	69. 0	76. 5	86. 7
1936.....	100. 7	115. 5	(⁸)	(⁸)	76. 2	98. 6
1937.....	106. 1	114. 4	83. 4	78. 4	85. 0	(⁸)
1938.....	100. 1	113. 7	(⁸)	(⁸)	75. 5	(⁸)
1939.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ Boots and shoes other than rubber.² U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners for all years except 1919 and 1921 which have been computed from the Census of Manufactures.³ Figures for 1919-36 from National Research Project, Production, Employment, and Productivity in 59 Manufacturing Industries, Part 2, p. 13. The index has been extended through 1938 by means of the Census of Manufactures and monthly production data compiled by the Bureau of the Census.⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.⁵ Value added by manufacture as computed by the Census of Manufactures.⁶ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.⁷ Thousands of dollars.⁸ Comparable data not available.

TABLE VIII.—*Social performance of the slaughtering and meat packing industry, 1919-38*

[1927=100]

Year	Employment ¹	Production ²	Consumer effort commanded ³	Consumer funds absorbed ⁴	Pay rolls ⁵	Dividends and interest ⁶
Amount in base year.....	119,095	-----	-----	• \$393,475	• \$161,584	• \$43,045
1919.....	120.6	99.0	116.6	117.8	108.5	(?)
1920.....	118.4	88.0	(?)	(?)	126.0	(?)
1921.....	115.2	86.0	89.1	84.6	105.7	(?)
1922.....	112.6	95.0	(?)	(?)	100.2	(?)
1923.....	111.4	110.0	108.4	104.1	103.7	(?)
1924.....	106.7	112.0	(?)	(?)	101.0	(?)
1925.....	101.1	101.0	109.1	108.0	98.6	(?)
1926.....	99.1	99.0	(?)	(?)	98.9	83.8
1927.....	100.0	100.0	100.0	100.0	100.0	100.0
1928.....	100.9	103.0	(?)	(?)	101.2	69.6
1929.....	102.9	101.0	111.4	117.0	102.6	117.7
1930.....	98.0	97.0	(?)	(?)	97.4	83.0
1931.....	89.5	98.0	98.6	86.8	83.1	52.7
1932.....	85.7	96.0	(?)	(?)	66.4	8.1
1933.....	95.0	104.0	97.5	73.1	69.5	27.4
1934.....	115.7	118.0	(?)	(?)	94.9	53.9
1935.....	97.9	82.0	99.1	84.2	84.4	46.7
1936.....	104.7	99.0	(?)	(?)	92.3	62.7
1937.....	107.0	90.0	108.7	102.2	105.5	(?)
1938.....	103.9	95.0	(?)	(?)	105.5	(?)
1939.....	(?)	(?)	(?)	(?)	(?)	(?)

¹ U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners.² Federal Reserve Board index of production. It was used in preference to that of the National Research Project because the latter seems not to have included animals slaughtered for Government account, a factor of considerable importance especially in 1934.³ Index of consumer funds absorbed divided by Snyder's index of the general price level.⁴ Value added by manufacture, as computed by the Census of Manufactures.⁵ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.⁶ Thousands of dollars.⁷ Comparable data not available

TABLE IX.—*Social performance of the cotton-goods industry, 1919-38*¹

[1927=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁶
Amount in base year.....	467,596	-----	-----	⁷ \$687,099	⁷ \$380,910	⁷ \$47,017
1919.....	92.1	81.2	121.6	122.8	91.2	(⁸)
1920.....	92.3	80.4	(⁸)	(⁸)	116.1	(⁸)
1921.....	88.0	74.6	86.7	82.4	84.2	(⁸)
1922.....	88.7	86.6	(⁸)	(⁸)	81.9	(⁸)
1923.....	100.9	94.9	112.5	108.0	104.2	(⁸)
1924.....	87.4	80.6	(⁸)	(⁸)	86.7	(⁸)
1925.....	95.3	92.8	92.5	91.6	93.0	(⁸)
1926.....	96.3	94.7	(⁸)	(⁸)	93.2	115.5
1927.....	100.0	100.0	100.0	100.0	100.0	100.0
1928.....	90.3	89.6	(⁸)	(⁸)	83.6	104.5
1929.....	90.8	95.3	85.6	89.9	85.2	103.2
1930.....	76.3	70.8	(⁸)	(⁸)	65.7	84.2
1931.....	70.4	70.0	65.0	57.2	57.7	54.0
1932.....	63.4	64.6	(⁸)	(⁸)	41.5	35.9
1933.....	81.2	81.1	73.2	54.9	57.0	36.9
1934.....	84.4	69.9	(⁸)	(⁸)	64.5	58.5
1935.....	78.9	73.1	63.4	53.9	62.3	40.9
1936.....	83.9	91.1	(⁸)	(⁸)	70.1	55.8
1937.....	90.3	94.8	84.5	79.4	82.3	(⁸)
1938.....	77.1	75.6	(⁸)	(⁸)	63.3	(⁸)
1939.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ Since 1935 the Census of Manufactures has included what it formerly classified as the "cotton goods" industry in the related-industry group "cotton manufactures." It also broke down "cotton goods" into "cotton woven goods (over 12 inches in width)" and "cotton yarn and thread." Certain parts of the industry were shifted to a new classification "dyeing and finishing cotton, rayon and silk."

On the other hand, goods composed of cotton and rayon or silk were all transferred to cotton in 1935 and 1937 whereas in former censuses some of the mixed fabrics were tabulated in the silk and rayon goods industry if those fibers formed the chief value of the material. There is no way of determining to what extent these are compensating shifts. The combined figures for the "cotton woven goods (over 12 inches in width)" and "cotton yarn and thread" industries for 1935 and 1937 are, according to the census, "roughly, but not exactly, comparable with the 'cotton-goods' industry figures for 1933 and earlier years * * *." In this study the 2 subdivisions of the former "cotton-goods" industry have been combined.

The National Research Project index of production, based on the production of certain types of cotton woven goods and yarns selected by them from the items classified by the Census of Manufactures under the cotton goods industry, has been used in preference to the index of the Federal Reserve Board which is based on all cotton consumed. The former conforms more closely with the coverage of the indexes for employment, pay rolls, and consumer funds absorbed, all based on census data. The National Research Project used the index of the Federal Reserve Board to interpolate for intercensal years. It was therefore used to extrapolate the National Research index through 1938.

² U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners. Despite the shifts in census classification noted below, the Bureau found that no adjustment was necessary in these indexes.

³ Figures for 1919-36 from National Research Project, Production, Employment, and Productivity in 59 Manufacturing Industries, Part 2, p. 64. The series was extended through 1938 by means of the Federal Reserve Board index of cotton consumption.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Value added by manufacture as computed by the Census of Manufactures. Cost of contract work has been excluded throughout the period.

⁶ Excludes intercorporate dividends and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE X.—*Social performance of the woolen and worsted-goods industry, 1919-38*¹

[1927=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁶
Amount in base year.....	154,361			⁷ \$315,870	⁷ \$173,822	⁷ \$17,942
1919.....	108.0	96.8	125.3	126.6	96.7	(⁸)
1920.....	(⁸)	85.8	(⁸)	(⁸)	(⁸)	(⁸)
1921.....	105.2	94.7	118.5	112.6	100.6	(⁸)
1922.....	(⁸)	101.2	(⁸)	(⁸)	(⁸)	(⁸)
1923.....	126.1	122.4	145.0	139.2	128.8	(⁸)
1924.....	112.9	102.1	(⁸)	(⁸)	115.2	(⁸)
1925.....	107.0	105.9	107.9	106.8	110.2	(⁸)
1926.....	97.0	98.9	(⁸)	(⁸)	99.2	145.5
1927.....	100.0	100.0	100.0	100.0	100.0	100.0
1928.....	95.8	94.8	(⁸)	(⁸)	93.5	90.4
1929.....	95.3	95.5	97.9	102.7	94.6	80.7
1930.....	77.5	70.3	(⁸)	(⁸)	71.4	60.5
1931.....	77.4	77.2	78.3	68.9	67.7	41.4
1932.....	64.6	64.0	(⁸)	(⁸)	45.9	22.6
1933.....	82.4	82.6	83.7	62.8	58.7	24.7
1934.....	77.9	69.1	(⁸)	(⁸)	58.0	43.5
1935.....	104.3	109.1	98.5	83.7	84.4	33.3
1936.....	101.6	106.4	(⁸)	(⁸)	82.1	74.4
1937.....	100.2	101.1	97.0	91.2	88.8	(⁸)
1938.....	81.0	75.2	(⁸)	(⁸)	66.6	(⁸)
1939.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ Because of changes in the Census of Manufactures classification of this industry in 1935 the figures for 1935 and 1937 based on census data are not completely comparable with those for earlier years. Prior to 1935 the census classification "woolen goods and worsted goods" was used. This was changed to "wool and hair manufactures" in 1935. The principal changes were the transfer of woven felts and the dyeing and finishing of woolen and worsted goods to the woolen and worsted-goods industry and the addition of haircloth.

Due to these changes in the census figures the Bureau of Labor Statistics adjusted its indexes of employment and pay rolls to movements of selected census data on the assumption that such movements would agree closely with those of the former census series. But the Bureau did not find the changes in the composition of the census totals between 1933 and 1935 "sufficiently significant to vitiate comparisons of the 1933 and 1935 totals." The indexes in 1937 are slightly lower than the census totals.

² U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners for all years except 1919 and 1921 which were estimated from figures given in the Census of Manufactures.

³ Figures for 1919-35 from National Research Project, Production, Employment, and Productivity in 59 Manufacturing Industries, Part 2, p. 229. The index has been extrapolated through 1938 by means of the Federal Reserve Board index of wool machinery activity.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Value added by manufacture as computed by the Census of Manufactures.

⁶ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE XI.—*Social performance of the chemical industry, 1919-38*¹

[1927=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁶
Amount in base year	55,559			⁷ \$314, 213	⁷ \$83, 223	⁷ \$74, 727
1919	(⁸)	65.6	(⁸)	(⁸)	(⁸)	(⁸)
1920	(⁸)	80.9	(⁸)	(⁸)	(⁸)	(⁸)
1921	(⁸)	51.3	(⁸)	(⁸)	(⁸)	(⁸)
1922	(⁸)	69.9	(⁸)	(⁸)	(⁸)	(⁸)
1923	(⁸)	88.1	(⁸)	(⁸)	(⁸)	(⁸)
1924	(⁸)	78.7	(⁸)	(⁸)	(⁸)	(⁸)
1925	104.2	87.8	92.4	91.5	100.4	(⁸)
1926	(⁸)	97.5	(⁸)	(⁸)	(⁸)	(⁸)
1927	100.0	100.0	100.0	100.0	100.0	100.0
1928	(⁸)	109.4	(⁸)	(⁸)	(⁸)	110.6
1929	118.1	133.7	125.0	131.2	120.2	102.5
1930	108.1	115.9	(⁸)	(⁸)	103.8	137.5
1931	92.5	104.1	115.3	101.5	84.4	99.6
1932	82.6	89.4	(⁸)	(⁸)	64.7	91.7
1933	100.7	106.4	118.1	88.6	75.0	60.2
1934	125.6	114.7	(⁸)	(⁸)	96.6	63.7
1935	125.3	125.5	138.2	117.8	102.0	141.5
1936	134.9	141.7	(⁸)	(⁸)	117.3	135.6
1937	150.5	163.4	176.0	165.6	148.8	(⁸)
1938	125.4	(⁸)	(⁸)	(⁸)	124.4	(⁸)
1939	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ Includes acids, compounds, coal-tar products, plastics, and compressed and liquefied gases, which are included in the Census of Manufactures under "Chemical, not elsewhere classified" and "Compressed and liquefied gases."

Figures for employment, pay rolls, and consumer funds absorbed cannot be presented for years prior to 1925 because of changes in classification of the chemical industry by the Census of Manufactures.

As was indicated on p. 130 above, the dividends and interest series for the Chemicals and Allied Products industry was one of those most seriously affected by the change in industrial classification made by the Bureau of Internal Revenue in 1934. The amount of discrepancy is hard to assess.

² Census of Manufactures figures for wage earners and wages for census years; interpolations for intercensal years have been made by using the Bureau of Labor Statistics indexes for the subgroup "chemicals."

³ Figures for 1919-36 from National Research Project, Production, Employment, and Productivity in 59 Manufacturing Industries, Part 2, p. 43. The index has been extended through 1937 by means of Census of Manufactures data.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Value added by manufacture as computed by the Census of Manufactures.

⁶ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue for "chemicals proper, acids, compounds, etc."

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE XII.—*Social performance of the electric light and power industry, 1919-38* ¹

[1923-25=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁷
Amount in base years.....	189,300			⁷ \$727,700	⁷ \$286,600	⁷ \$363,900
1919.....	57.1	(⁸)	43.0	44.7	48.8	40.3
1920.....	62.9	70.7	45.3	52.5	61.7	43.0
1921.....	65.2	66.5	57.6	56.4	64.6	48.6
1922.....	71.9	78.1	72.7	69.1	67.7	65.2
1923.....	93.8	91.9	88.2	87.3	88.0	83.4
1924.....	101.4	98.1	101.3	100.3	103.9	99.8
1925.....	104.8	110.0	110.2	112.4	108.2	116.9
1926.....	118.6	122.7	127.3	129.8	124.0	130.2
1927.....	124.0	132.9	139.0	141.8	128.3	146.7
1928.....	132.4	146.6	157.7	165.6	139.8	172.5
1929.....	143.6	164.0	177.2	189.6	150.9	200.2
1930.....	147.9	161.4	194.8	196.7	151.1	228.0
1931.....	137.2	154.8	204.8	184.3	134.3	234.7
1932.....	119.2	139.6	191.0	150.9	105.8	213.2
1933.....	113.1	143.7	175.0	134.7	95.5	196.2
1934.....	120.3	153.9	154.5	126.7	103.4	170.8
1935.....	121.8	167.4	153.8	133.8	108.0	172.2
1936.....	128.4	191.7	155.9	143.4	125.6	176.7
1937.....	135.1	207.1	160.7	154.3	152.3	181.3
1938.....	129.2	195.1	159.6	146.8	150.5	177.5
1939.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ Privately owned electric utilities only; municipal, Federal, and State owned electric utilities are included under "Government." All series except production are based on estimates of the National Bureau of Economic Research which cover the period 1919-35, inclusive. Estimates for the remaining years are rough approximations based on figures of the Department of Commerce for electric light and power and manufactured gas. In all other industries where indexes have been based on both sources, the Department of Commerce estimates have been used for the period beginning with 1929 and estimates for other years have been adjusted to conform with Commerce figures. The different procedure was adopted in this industry because it seemed preferable to show only the electric light and power industry, and the Department of Commerce does not show estimates for dividends and interest and income produced exclusive of manufactured gas. As will be explained below, the differences between the 2 sources for some series are sufficient to make the extrapolations extremely tentative. It is possible also that the data now available in the 1937 census of the electric light and power industry would cause the National Bureau to revise some of its estimates for the years 1932 through 1937.

The production figures are based on a revised series of electrical energy produced by privately owned electric utilities. It was compiled by the Federal Power Commission and shown in their volume on Electric Power Statistics, 1938, p. 5. The series is comparable throughout the period.

Both the Department of Commerce and National Bureau have estimated employment and pay rolls for the electric light and power industry from census data. They have used different methods of interpolating however, giving rise to minor differences in intercensal years. The National Bureau series have been extended through 1938 by using census figures for 1937 and estimating for 1936 and 1938 on the basis of the year-to-year changes in the Department of Commerce figures for these years. The employment and payroll data can thus be regarded as comparatively consistent throughout the period.

In order to compare estimates of dividends and interest made by the National Bureau of Economic Research and by the Department of Commerce, the former's estimates for electric light and power and manufactured gas were combined. While both used the figures of the Bureau of Internal Revenue, there exist marked differences in the estimates especially in some of the overlapping years, attributable in part to the fact that the National Bureau made adjustments based on census data while the Department of Commerce did not use census material. But the 2 estimates are within 3 percent of each other in 1935 and the estimates for subsequent years have been made by applying the index (1935=100) of the Department of Commerce data, including manufactured gas, to the 1935 figure of the National Bureau for electric light and power alone. The Department of Commerce estimates for 1937 and 1938 are preliminary since they are based on changes in the corporate sample rather than complete information later available in the Statistics of Income. The resulting index must be regarded as subject to substantial corrections for the years 1936-38, inclusive. On the basis of the National Bureau estimates it would appear that the index of dividends and interest in 1934 would have been about 180, using the 1933 industrial classification, instead of 171 as shown in the table and chart.

Figures for consumer funds absorbed are based primarily on income produced as estimated by the National Bureau. The extrapolations for 1936-38, inclusive, have been made by applying the index (1935=100) of the Commerce estimates, including manufactured gas, to the National Bureau estimates for electric light and power for 1935. The income produced series, it should be remembered, is affected by the discrepancies found in the dividends and interest series plus those in the 2 sets of estimates of business savings. On the other hand, since the 2 estimates of wages and salaries, which are also included in income produced, are comparatively close, these would tend to reduce the probable disparities in the index for 1936-38 which result from the method of extrapolation used here. Nevertheless, it should be kept in mind that there is a possibility of considerable error in the estimates of consumer funds absorbed for these years.

² All employees and salaries and wages. The figures for 1919 to 1935, inclusive, are estimates of the National Bureau of Economic Research which have been extrapolated on the basis of the Census of Electrical Industries for 1937 and estimates of the Department of Commerce.

³ Based on kilowatt-hours of electric energy produced by privately owned electric utilities as compiled by the Federal Power Commission.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Income produced.

⁶ Excludes intercorporate dividend and interest payments and short-term interest.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE XIII—Social performance of the iron and steel industry, 1919–38¹

[1927=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁶
Amount in base year.....	389,270			⁷ \$1,219,534	⁷ \$645,534	⁷ \$209,166
1919.....	107.1	78.0	107.3	108.4	110.3	(⁸)
1920.....	(⁸)	96.8	(⁸)	(⁸)	(⁸)	(⁸)
1921.....	65.4	44.8	46.2	43.9	54.9	(⁸)
1922.....	(⁸)	78.6	(⁸)	(⁸)	(⁸)	(⁸)
1923.....	109.2	98.7	110.2	105.8	108.1	(⁸)
1924.....	101.5	82.7	(⁸)	(⁸)	99.8	(⁸)
1925.....	102.8	99.5	106.2	105.1	102.4	(⁸)
1926.....	105.5	106.6	(⁸)	(⁸)	106.5	98.0
1927.....	100.0	100.0	100.0	100.0	100.0	100.0
1928.....	100.5	115.2	(⁸)	(⁸)	104.0	101.3
1929.....	107.8	126.6	126.8	133.1	113.3	122.6
1930.....	94.4	93.2	(⁸)	(⁸)	90.7	112.0
1931.....	71.5	60.9	58.1	51.1	55.4	72.6
1932.....	60.4	33.5	(⁸)	(⁸)	28.3	40.4
1933.....	74.2	55.3	52.7	39.5	41.9	21.4
1934.....	90.1	61.8	(⁸)	(⁸)	56.9	48.0
1935.....	96.2	81.1	86.4	73.4	71.0	98.6
1936.....	111.9	112.8	(⁸)	(⁸)	96.2	59.2
1937.....	129.0	121.0	141.9	133.4	126.7	(⁸)
1938.....	95.0	68.0	(⁸)	(⁸)	71.3	(⁸)
1939.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ Includes blast furnaces and steel works and rolling mills. Considerable difficulty was experienced in securing homogeneous dividends and interest figures. This series is based on the classification used by the Bureau of Internal Revenue called Iron and Steel—products of blast furnaces, rolling mills, foundries, etc., and represents net payments.

In addition to these figures, there is a series "Total dividends paid" (i. e., cash dividends) compiled by the American Iron and Steel Institute. In the next table this series is compared with the cash dividends paid as compiled by the Bureau of Internal Revenue.

Cash dividends paid by the iron and steel industry as compiled by the Bureau of Internal Revenue and the American Iron and Steel Institute

Year	Amount (thousands of dollars)		Indexes, 1927=100	
	Bureau of Internal Revenue	American Iron and Steel Institute	Bureau of Internal Revenue	American Iron and Steel Institute
1919.....		\$138,720		91.1
1920.....		138,343		90.9
1921.....		107,012		70.3
1922.....		103,954		68.3
1923.....		121,756		80.0
1924.....		130,082		85.6
1925.....		114,618		75.3
1926.....	\$180,408	124,590	100.1	81.8
1927.....	180,204	152,220	100.0	100.0
1928.....	197,455	160,438	109.6	105.4
1929.....	253,583	202,193	140.7	132.8
1930.....	339,646	192,004	133.0	126.1
1931.....	138,922	106,573	77.1	70.0
1932.....	62,654	36,218	34.8	23.8
1933.....	17,504	20,880	9.7	13.4
1934.....	79,829	23,130	44.3	15.2
1935.....	194,469	38,926	107.9	25.6
1936.....	103,840	109,240	57.6	71.8
1937.....		151,145		99.3
1938.....		48,952		32.2
1939.....				-----

NOTES.—There are marked differences. The figures of the Bureau of Internal Revenue are higher in every year except 1933 and 1936. For the period 1926–31, inclusive, they range from 18 to 44 percent higher. The variations are even greater in the subsequent years, the Bureau figures being 73 percent above the total shown by the Iron and Steel Institute in 1932, 14 percent below in 1933, 245 percent and 400 percent above in 1934 and 1935, and 5 percent below in 1936.

Part of the discrepancy is undoubtedly due to the change in industrial classification made by the Bureau of Internal Revenue in 1934, a fact sufficiently noted on appendix A. The rise in 1934 and

TABLE XIV.—*Social performance of the paper and pulp industry, 1919–38*

[1927=100]

Year	Employment ¹	Production ²	Consumer effort commanded ³	Consumer funds absorbed ⁴	Pay rolls ⁵	Dividends and interest ⁶
Amount in base year.....	123,360			\$413,979	\$162,002	\$70,037
1919.....	92.0	66.7	74.6	77.4	83.7	(?)
1920.....	106.3	76.4	(?)	(?)	118.7	(?)
1921.....	85.2	57.9	60.2	53.5	79.9	(?)
1922.....	88.7	74.4	(?)	(?)	79.2	(?)
1923.....	97.8	83.4	85.6	80.6	93.4	(?)
1924.....	95.2	81.2	(?)	(?)	92.6	(?)
1925.....	100.5	92.2	90.0	88.4	98.9	(?)
1926.....	103.5	98.9	(?)	(?)	103.6	88.3
1927.....	100.0	100.0	100.0	100.0	100.0	100.0
1928.....	98.6	104.0	(?)	(?)	100.0	116.3
1929.....	103.8	111.6	108.2	116.6	106.8	102.0
1930.....	100.3	103.0	(?)	(?)	99.3	94.9
1931.....	87.6	95.7	96.8	86.1	73.0	75.5
1932.....	80.1	81.2	(?)	(?)	58.3	49.6
1933.....	87.1	92.5	98.1	72.9	61.2	61.0
1934.....	100.7	92.9	(?)	(?)	74.2	74.9
1935.....	103.0	105.0	106.6	85.4	82.3	88.7
1936.....	104.5	116.9	(?)	(?)	90.8	104.9
1937.....	111.8	129.3	129.1	117.0	108.3	(?)
1938.....	102.1	114.1	(?)	(?)	95.3	(?)
1939.....	(?)	(?)	(?)	(?)	(?)	(?)

¹ U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners.² Figures for 1919–36 from National Research Project, Production, Employment, and Productivity in 59 Manufacturing Industries, Part 2, p. 179. The index was extended through 1938 by means of series of paper and pulp produced, as published in the Survey of Current Business.³ Index of consumer funds absorbed divided by Snyder's index of the general price level.⁴ Value added by manufacture, as computed by the Census of Manufactures.⁵ Excludes intercorporate dividend and interest payments. Compiled from U. S. Bureau of Internal Revenue Statistics of Income for respective years. The series is more inclusive than the others in the table because it includes converted paper products as well as paper and pulp. But in the base year, 1927, the paper and pulp industry accounted for roughly 55 percent of the wage earners, 60 percent of the wages, and 59 percent of the value added total shown in the census classification "Paper and allied products" which includes both paper and pulp and converted paper products.⁶ Thousands of dollars.⁷ Comparable data not available.

1935, for example, is unquestionably due in part to this shift, for the figures of the Iron and Steel Institute show a more moderate increase.

The figures of the Bureau of Internal Revenue have been used, despite their obvious shortcomings, because this is the only source which furnishes the data necessary to compute "net" dividend and interest payments. When dividends received and interest paid and received are taken into account, as is the case in the table and chart for this industry, the year-to-year fluctuations are less extreme than when only cash dividends paid are plotted. Nevertheless, the "net" dividends and interest series must be interpreted with caution because of the inconsistencies revealed in the comparison of cash dividend payments.

¹ U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners for all years except 1919 and 1921 which have been computed from the Census of Manufactures.² Figures for 1919–36 from National Research Project, Production, Employment and Productivity in 59 Manufacturing Industries, Part 2, p. 99. The series was extended through 1938 by means of the Federal Reserve Board index of production for iron and steel.³ Index of consumer funds absorbed divided by Snyder's index of the general price level.⁴ Value added by manufacture as computed by the Census of Manufactures.⁵ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.⁶ Thousands of dollars.⁷ Comparable data not available.

TABLE XV.—*Social performance of the flour and other grain mill products industry, 1919-38*

[1927=100]

Year	Employment ¹	Production ²	Consumer effort commanded ³	Consumer funds absorbed ⁴	Pay rolls ⁵	Dividends and interest ⁶
Amount in base year.....	29,982			\$176,049	\$37,559	\$27,169
1919.....	151.0	111.8	142.5	143.9	135.1	(?)
1920.....	136.1	91.9	(?)	(?)	141.7	(?)
1921.....	117.8	97.1	111.2	105.6	113.9	(?)
1922.....	119.6	101.1	(?)	(?)	107.0	(?)
1923.....	117.3	101.9	96.2	92.4	111.0	(?)
1924.....	111.5	104.2	(?)	(?)	110.0	(?)
1925.....	106.7	100.0	99.1	98.1	105.8	(?)
1926.....	102.7	101.0	(?)	(?)	102.8	95.0
1927.....	100.0	100.0	100.0	100.0	100.0	100.0
1928.....	95.6	101.1	(?)	(?)	97.7	127.3
1929.....	90.2	100.8	103.5	108.7	93.4	120.9
1930.....	82.7	99.5	(?)	(?)	85.7	74.9
1931.....	76.2	93.9	88.4	77.8	72.7	87.3
1932.....	73.5	86.6	(?)	(?)	61.4	65.9
1933.....	77.4	82.2	101.7	76.3	60.1	82.1
1934.....	88.4	83.1	(?)	(?)	70.3	82.0
1935.....	88.4	82.6	91.5	77.8	72.1	93.4
1936.....	86.6	86.8	(?)	(?)	74.6	24.3
1937.....	83.0	85.3	80.7	75.9	83.3	(?)
1938.....	86.5	87.2	(?)	(?)	79.4	(?)
1939.....	(?)	(?)	(?)	(?)	(?)	(?)

¹ U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners.² Figures for 1919-36 from National Research Project, Production, Employment, and Productivity in 59 Manufacturing Industries, Part 2, p. 77. The index has been continued through 1938 by means of data of the Census of Manufactures and Wheat Studies of the Food Research Institute, following the methods used for the earlier years.³ Index of consumer funds absorbed divided by Snyder's index of the general price level.⁴ Value added by manufacture, as computed by the Census of Manufactures.⁵ Excludes intercorporate dividends and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.⁶ Thousands of dollars.⁷ Comparable data not available.

TABLE XVI.—*Social performance of the oil and gas producing industry, 1919-38*

[1927 = 100]

Year	Employment ¹	Production ²	Value of products ³	Pay rolls ⁴	Dividends and interest ⁵
Amount in base year.....	131,000	-----	⁵ \$1,300,298	⁵ \$234,000	⁵ \$113,398
1919.....	73.3	42.9	(⁶)	64.5	(⁶)
1920.....	88.1	49.7	(⁶)	106.3	(⁶)
1921.....	64.2	51.8	(⁶)	62.3	(⁶)
1922.....	81.2	61.1	75.4	74.4	(⁶)
1923.....	85.7	80.2	83.0	82.3	(⁶)
1924.....	79.0	79.2	86.8	75.6	(⁶)
1925.....	89.9	84.6	107.4	88.2	(⁶)
1926.....	112.8	86.0	120.9	111.3	119.4
1927.....	100.0	100.0	100.0	100.0	100.0
1928.....	80.4	100.8	91.9	81.7	73.7
1929.....	107.3	113.7	110.6	108.6	68.1
1930.....	93.6	102.8	93.6	95.8	77.1
1931.....	64.7	96.5	51.4	62.4	46.3
1932.....	60.1	89.0	59.9	49.2	46.3
1933.....	70.0	101.1	54.2	54.3	45.2
1934.....	87.6	102.8	77.8	69.7	102.7
1935.....	84.4	112.7	82.4	70.6	81.4
1936.....	92.1	124.6	101.4	71.8	74.3
1937.....	98.2	144.2	125.9	83.4	(⁶)
1938.....	92.8	136.7	115.4	81.2	(⁶)
1939.....	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)

¹ Employment series based on all employees and pay-roll series on salaries and wages. Estimates of the National Income Division, Department of Commerce, have been used for 1929-38 and for prior years their estimates have been extrapolated on the basis of the trend of estimates of the National Bureau of Economic Research.

² Weighted aggregate of crude petroleum produced and natural gas marketed as reported by the U. S. Bureau of Mines. The weights are based on the average value of products at wells in 1923, 1924, and 1925, which corresponds with the Federal Reserve Board's system of weights for other mineral industries. Note that only production is covered, not transportation, refining, or distribution. Manufactured gas is included under the utilities. Petroleum refining is given a separate place.

³ Value of products at wells as compiled by the U. S. Bureau of Mines. No figures are available for "income produced" or "value added by manufacture," but value of products would seem adequate to the purpose in a raw material producing industry.

⁴ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the Bureau of Internal Revenue. Comparability since 1934 has been seriously affected by change in classification, tending to exaggerate increases shown in 1934, 1935, and 1936.

⁵ Thousands of dollars.

⁶ Comparable data not available.

TABLE XVII.—*Social performance of the furniture industry, 1919-36*¹

[1927=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁶
Amount in base year	188, 143			7 \$493, 106	7 \$238, 240	7 \$45, 643
1919	74.5	59.8	(⁸)	(⁸)	60.1	(⁸)
1920	(⁸)	52.1	(⁸)	(⁸)	(⁸)	(⁸)
1921	66.1	48.9	(⁸) 63.4	(⁸) 60.2	60.5	(⁸)
1922	(⁸)	65.0	(⁸)	(⁸)	(⁸)	(⁸)
1923	90.2	74.5	(⁸) 91.8	(⁸) 88.1	86.7	(⁸)
1924	88.4	80.0	(⁸)	(⁸)	86.2	(⁸)
1925	97.2	92.1	(⁸) 99.1	(⁸) 98.1	95.4	(⁸)
1926	101.4	100.0	(⁸)	(⁸)	101.4	93.5
1927	100.0	100.0	(⁸) 100.0	(⁸) 100.0	100.0	100.0
1928	98.1	98.5	(⁸)	(⁸)	96.2	125.9
1929	102.8	108.5	(⁸) 100.8	(⁸) 105.8	102.0	91.1
1930	81.8	76.2	(⁸)	(⁸)	72.2	69.6
1931	67.7	58.4	(⁸) 60.9	(⁸) 53.6	53.0	46.1
1932	52.8	39.7	(⁸)	(⁸)	30.9	29.9
1933	56.1	42.1	(⁸) 42.0	(⁸) 31.5	32.1	21.4
1934	59.4	47.2	(⁸)	(⁸)	37.7	29.3
1935	69.5	61.3	(⁸) 54.0	(⁸) 45.9	47.9	34.6
1936	79.8	72.1	(⁸)	(⁸)	60.5	60.3
1937	90.3	80.6	(⁸) 76.0	(⁸) 71.4	72.6	(⁸)
1938	73.1	(⁸)	(⁸)	(⁸)	55.3	(⁸)
1939	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ The data for this industry are unusually fragmentary and have many shortcomings affecting their comparability. All of the series except dividends and interest are affected by a change in classification in the Census of Manufactures made in 1929 when establishments engaged in the manufacture of sewing machine cases, cabinets, and tables were transferred to the furniture industry.

The index of production is that published by the National Research Project, which computed it by dividend value of products by a price index. It therefore differs from the other production indexes presented in this study which are weighted aggregates of physical quantities of goods produced, a procedure which could not be followed here since there are no comprehensive figures available on units of various types of furniture manufactured.

To represent the trend in dividend and interest payments for the furniture industry the classification which the Bureau of Internal Revenue calls "other wood products" has been used. This series is more inclusive than the others in the table since, in addition to furniture, it includes carriages and wagons, and miscellaneous wood products such as baskets, boxes, and novelties. In the base year, for example, furniture accounted for approximately 75 percent of the wage earners, wages, and value added by manufacture in the combined census classifications which correspond to the grouping of the Bureau of Internal Revenue.

² U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners for all years except 1919 and 1921 which were estimated from data of the Census of Manufactures.

³ Figures for 1919-36 from National Research Project, Production, Employment, and Productivity in 59 Manufacturing Industries, Part 2, p. 80. The index has been extended through 1937 by means of data in the Census of Manufactures.

⁴ Index of consumer funds absorbed, divided by Snyder's index of the general price level.

⁵ Value added by manufacture, as computed by the Census of Manufactures.

⁶ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE XVIII.—*Social performance of the metal mining industry, 1919-38*

1927=100]

Year	Employment ¹	Production ²	Value of products ³	Pay rolls ⁴	Dividends and interest ⁵
Amount in base year.....	125,500	-----	\$ 625,627	\$ 201,000	\$ 95,569
1919.....	120.2	86.5	108.3	119.0	(⁶)
1920.....	117.5	87.3	124.2	126.2	(⁶)
1921.....	63.9	49.8	50.9	69.2	(⁶)
1922.....	84.4	70.9	78.3	71.1	(⁶)
1923.....	107.6	97.3	115.0	100.9	(⁶)
1924.....	105.5	94.2	102.1	100.8	(⁶)
1925.....	109.1	100.7	113.9	104.2	(⁶)
1926.....	108.3	105.4	115.8	106.4	103.3
1927.....	100.0	100.0	100.0	100.0	100.0
1928.....	96.6	102.2	105.8	96.1	114.0
1929.....	103.5	112.1	128.9	105.4	216.9
1930.....	92.3	88.4	80.7	87.5	100.7
1931.....	70.9	59.8	45.1	54.7	46.5
1932.....	46.2	35.6	21.4	28.9	20.8
1933.....	47.0	39.4	33.8	28.3	23.2
1934.....	58.9	47.8	46.1	37.7	38.7
1935.....	70.1	61.2	58.8	49.2	48.9
1936.....	90.0	85.4	85.0	68.6	89.9
1937.....	111.5	110.0	121.5	98.4	(⁶)
1938.....	83.6	75.8	76.8	65.6	(⁶)
1939.....	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)

¹ Employment series based on all employees and pay-roll series on salaries and wages. Estimates of the National Income Division, Department of Commerce, have been used for 1929-38 and for prior years their estimates have been extrapolated on the basis of the trend of estimates of the National Bureau of Economic Research.

² Weighted aggregate of indexes of production of copper, lead, zinc, gold, silver, and iron ore computed from data of the U. S. Bureau of Mines. The weights are based on the average value of products in 1923, 1924, and 1925, which correspond with the Federal Reserve Board's system of weights for mineral industries. The series with their respective weights are:

Copper: Smelter output from domestic ore.....	32.8
Lead: Production of refined primary lead from domestic ore.....	13.9
Zinc: Production of primary zinc from domestic ore.....	10.9
Gold: Produced from mines in continental United States, Alaska, Puerto Rico, and the Philip- pines.....	7.6
Silver: Produced from mines in continental United States, Alaska, Puerto Rico, and the Philip- pines.....	7.4
Iron ore: Production.....	27.4

This is the same group of metals which the National Income Division of the Department of Commerce includes in its estimates for metal mining.

³ Value of products for metals listed above, as compiled by the U. S. Bureau of Mines. No series is available for "income produced" or "value added by manufacture." To a large extent value of products in a raw-material producing industry gives a reasonably accurate indication of consumer funds absorbed.

⁴ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue, which also includes platinum and mercury.

⁵ Thousands of dollars.

⁶ Comparable data not available.

TABLE XIX.—*Social performance of the tobacco industry, 1919-38*¹

[1927=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁷	Dividends and interest ⁶
Amount in base year	129,299			⁷ \$366,932	⁷ \$105,250	⁷ \$64,781
1919	121.4	69.0	87.2	88.1	117.9	(⁸)
1920	119.2	74.0	(⁸)	(⁸)	136.9	(⁸)
1921	116.0	72.0	(⁸) 52.9	(⁸) 50.3	114.8	(⁸)
1922	113.3	75.0	(⁸)	(⁸)	108.9	(⁸)
1923	113.2	81.0	(⁸) 62.3	(⁸) 59.8	114.4	(⁸)
1924	105.8	84.0	(⁸)	(⁸)	109.2	(⁸)
1925	102.2	89.0	(⁸) 88.1	(⁸) 87.2	106.0	(⁸)
1926	97.3	95.0	(⁸)	(⁸)	101.2	99.9
1927	100.0	100.0	100.0	100.0	100.0	100.0
1928	97.1	105.0	(⁸)	(⁸)	94.6	105.9
1929	89.8	114.0	(⁸) 99.2	(⁸) 104.2	89.9	133.4
1930	83.8	111.0	(⁸)	(⁸)	79.9	150.7
1931	77.2	104.0	(⁸) 114.7	(⁸) 100.9	66.0	155.5
1932	70.2	94.0	(⁸)	(⁸)	53.0	140.0
1933	67.6	98.0	(⁸) 90.8	(⁸) 68.1	48.5	128.7
1934	72.9	108.0	(⁸)	(⁸)	55.6	134.7
1935	70.0	114.0	(⁸) 91.2	(⁸) 77.5	56.6	127.3
1936	70.7	129.0	(⁸)	(⁸)	60.2	155.7
1937	71.3	135.0	(⁸) 94.5	(⁸) 88.8	66.9	(⁸)
1938	69.8	135.0	(⁸)	(⁸)	64.6	(⁸)
1939	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ The tobacco manufacturing industry is composed of 3 parts: Cigars, cigarettes, chewing and smoking tobacco, and snuff. It would be highly desirable in this study to treat the 3 parts as separate industries, but the form in which the statistics are presented makes this impossible. The main tabulation is therefore for tobacco manufacturers as a whole, though cigars and cigarettes have been studied separately insofar as the available data permit.

The most striking feature in the break-down of the tobacco industry is the disproportionate importance of cigars and cigarettes in the measures of dividend payments and of employment and pay rolls. Dividend payments for the 6 largest cigarette-manufacturing companies are available for the years 1934-37, inclusive, in Selected Information on Cigarette Manufacturers with Assets over \$10,000,000 Each Registered under the Securities Exchange Act of 1934 at June 30, 1938, pp. 15 and 19. The dividend disbursements of these 6 companies have been compared with those for all corporations classified under "Tobacco products" by the Bureau of Internal Revenue. These 6 companies paid out 83.5 percent of all cash dividends paid by the tobacco industry in 1934, 90.4 percent in 1935, 85.2 percent in 1936, and 93.4 percent in 1937. In other words, the line for dividends on the chart for "Tobacco" reflects primarily the dividend payments of the cigarette industry. Of course, these 6 cigarette companies also manufacture other tobacco products, but the major part of their output is cigarettes.

The number of wage earners and total wages can be shown separately for cigars and cigarettes for census years beginning with 1927. In 1937 the cigarette industry employed 28 percent of the total wage earners in the tobacco industry and paid 34 percent of the total wages. The cigar industry employed almost 61 percent of the wage earners and paid 53 percent of the wages. Chewing and smoking tobacco and snuff accounted for the remainder. Thus it is evident that while the cigarette industry has by far the heavier weight in the dividends and interest series, the cigar industry exerts the greatest influence on the employment and the pay-roll series.

The production index for cigarettes has risen from 46 in 1919 to 169 in 1938. Cigar production, on the other hand, has decreased from 108 in 1919 to 75 in 1938. The trend for all 3 branches of the industry as combined in the Federal Reserve Board index of production for tobacco has been upward—from 69 in 1919 to 135 in 1938.

Employment in the cigarette industry showed a slight decline in the censuses of 1929 and 1931, but since then has been above the 1927 level. The index in 1937 was 21 percent above the 1927 level. The number of wage earners in cigars declined more than 40 percent between 1927 and 1933 and remained at about that level in 1935 and 1937.

Pay rolls in the cigarette industry have fluctuated more than employment since 1927. The low was 76 percent (1927=100) in 1933. It has since risen to 133.5 in 1937. For cigars a low of 39 was reached in 1933. By 1937 it had risen to about 50 percent of the 1927 level.

The indexes on the chart for the tobacco industry as a whole are thus made up of divergent trends. As a result, the index for dividends and interest reflects largely the payments of the cigarette industry. The trend in the production index also follows that for cigarettes in direction, though the inclusion of cigars and chewing and smoking tobacco and snuff narrows its amplitude. The employment and pay-roll indexes, on the other hand, reflect more markedly conditions in the cigar industry. They show a pronounced downward trend in nearly every year between 1919 and 1933, with a slight rise since 1933 which can be attributed largely to increases in the cigarette industry.

² U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners.

³ Federal Reserve Board index of production.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Value added by manufacture as computed by the Census of Manufactures. For years prior to 1931 the amount of tax paid by tobacco manufacturers, as reported by the Bureau of Internal Revenue, was deducted from "value added" in order to obtain comparable figures for the entire period.

⁶ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE XX.—*Social performance of the coal mining industry, 1919–1938*¹

(1927=100)

Year	Employment ²	Production ³	Value of products ⁴	Pay rolls ⁵	Dividends and interest ⁶
Amount in base year	675,000	-----	^a \$1,450,594	^a \$1,046,000	^a \$68,100
1919	109.4	95.0	105.2	93.7	(?)
1920	121.5	110.0	176.8	130.8	(?)
1921	94.0	89.0	113.9	110.7	(?)
1922	83.2	76.0	106.8	91.8	(?)
1923	110.3	111.0	139.4	134.5	(?)
1924	96.8	98.0	106.2	109.5	(?)
1925	94.0	94.0	95.7	94.3	(?)
1926	109.7	109.0	114.3	112.4	110.1
1927	100.0	100.0	100.0	100.0	100.0
1928	93.2	96.0	91.5	88.2	79.5
1929	94.5	100.0	92.3	85.3	94.5
1930	90.6	89.0	79.3	74.3	86.6
1931	83.1	74.0	61.0	57.5	68.5
1932	70.5	61.0	43.4	40.2	47.6
1933	71.2	64.0	45.0	40.6	33.7
1934	82.2	71.0	60.2	54.2	74.4
1935	82.4	70.0	59.9	55.3	48.7
1936	83.8	80.0	68.8	62.1	56.0
1937	84.6	80.0	73.2	62.7	(?)
1938	74.1	65.0	57.6	49.5	(?)
1939	(?)	(?)	(?)	(?)	(?)

¹ Includes anthracite and bituminous coal mining. As was mentioned on p. 130, the dividend and interest series for bituminous coal mining was one of those severely affected by the change in industrial classification made by the Bureau of Internal Revenue in 1934. Part of the increase in dividends and interest between 1933 and 1934 may be due to this shift.

² Employment series based on all employees and pay-roll series on salaries and wages. Estimates of the National Income Division, Department of Commerce, have been used for 1929–38 and for prior years their estimates have been extrapolated on the basis of the trend of estimates of the National Bureau of Economic Research.

³ Weighted aggregate of Federal Reserve Board indexes of production for anthracite and bituminous coal.

⁴ Value of products as compiled by the U. S. Bureau of Mines. No figures are available for "Income produced" or "Value added by manufacture."

⁵ Excludes intercorporate dividend and interest payments. From 1928 on the figures were compiled from unpublished data of the U. S. Bureau of Internal Revenue. Those for 1926 and 1927 have been extrapolated by means of unpublished figures of the National Bureau of Economic Research.

⁶ Thousands of dollars.

⁷ Comparable data not available.

TABLE XXI.—*Social performance of the lumber and timber products industry, 1919-38*¹

(1927=100)

Year	Employment ²	Production ³		Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁷
		Lumber and timber products only	Lumber and timber, and planing-mill products				
Amount in base year	510,535				⁷ \$952,394	⁷ \$539,502	⁷ \$83,172
1919	111.2	100.2	93.8	(⁸)	113.4	107.8	(⁸)
1920	(⁸)	96.9	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)
1921	86.6	80.0	84.5	75.1	71.8	75.9	(⁸)
1922	(⁸)	92.3	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)
1923	117.2	107.1	108.2	132.5	123.0	113.0	(⁸)
1924	113.2	103.8	(⁸)	(⁸)	(⁸)	111.1	(⁸)
1925	113.3	110.1	115.3	118.3	117.4	111.9	(⁸)
1926	110.9	105.8	(⁸)	(⁸)	(⁸)	109.9	122.0
1927	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1928	97.1	96.8	(⁸)	(⁸)	(⁸)	97.3	91.7
1929	99.8	104.4	103.8	114.3	114.3	99.7	91.5
1930	76.7	73.4	(⁸)	(⁸)	(⁸)	74.0	67.7
1931	49.1	46.6	47.6	44.8	44.2	39.8	36.5
1932	37.0	28.8	(⁸)	(⁸)	(⁸)	21.4	27.6
1933	44.0	39.9	37.0	42.1	28.9	25.9	22.6
1934	52.8	43.9	(⁸)	(⁸)	(⁸)	33.9	40.4
1935	59.5	55.5	52.8	56.0	43.8	41.9	34.2
1936	69.3	69.1	(⁸)	(⁸)	(⁸)	54.0	47.4
1937	76.6	69.7	69.8	77.2	67.3	63.6	(⁸)
1938	64.7	54.9	(⁸)	(⁸)	(⁸)	52.3	(⁸)
1939	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ This industry comprises the activities classified by the Census of Manufactures under "Lumber and timber products, not elsewhere classified" and "Planing-mill products." The 2 classifications were combined so as to have an industry group which would correspond as closely as possible with the category of the Bureau of Internal Revenue called "Sawmill and planing mill products."

In securing a combined index of production 2 indexes of the National Research Project were used, 1 for lumber and timber products, which included logging camps, sawmills, and saw-plane mills, the other for planing-mill products. Since production of planing-mill products could not be estimated for intercensal years, production of lumber and timber products is shown in the table to indicate the movement of the index in intercensal years. It should be compared with the weighted series which also includes planing-mill products. The respective values of product of the 2 industries in 1929 were used as weights in combining the indexes inasmuch as the respective values of products in 1929 were used as weights by the National Research Project.

² Weighted aggregates of the U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners in "Lumber, sawmills" and "Lumber, millwork." The average number of wage earners and average annual pay rolls in the Bureau of Labor Statistics base period, 1923-25, were used as weights. Figures for 1919 and 1921 have been estimated from Census of Manufactures.

³ The National Research Project computed separate indexes for lumber and timber products and planing-mill products. (See Production, Employment, and Productivity in 59 Manufacturing Industries, Part 2, pp. 126 and 186.) The former was extended through 1938 by means of estimates of total lumber production of the National Lumber Manufacturers' Association, and the latter through 1937 by means of Census of Manufactures data. The second production series is a weighted aggregate of the 2 indexes, using their respective values of products in 1929 as weights.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Value added by manufacture as computed by the Census of Manufactures. Cost of contract work has been excluded from "Lumber and timber products not elsewhere classified" throughout the period.

⁶ Excludes intercorporate dividend and interest payments. Compiled from unpublished data of the U. S. Bureau of Internal Revenue.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE XXII.—*Social performance of the steam railroad industry, 1919-38*¹

[1923-25=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁶
Amount in base years.....	1,539,800			⁷ \$4,383,900	⁷ \$2,376,000	⁷ \$795,700
1919.....	111.5	96.8	86.1	89.5	104.2	87.1
1920.....	117.9	106.3	95.0	110.2	136.1	87.7
1921.....	93.8	80.7	86.6	86.8	96.1	86.1
1922.....	89.7	86.2	91.6	87.0	89.5	89.8
1923.....	104.4	102.2	102.0	101.0	104.6	94.7
1924.....	98.0	96.4	98.0	97.0	96.9	100.8
1925.....	97.7	101.3	100.0	102.0	98.4	104.5
1926.....	99.8	107.1	104.0	106.1	101.7	108.7
1927.....	97.0	103.1	99.6	101.6	99.3	121.3
1928.....	92.2	102.9	97.0	101.9	95.9	112.4
1929.....	92.6	105.4	98.9	105.8	98.7	119.2
1930.....	82.0	90.4	87.1	88.0	84.6	119.8
1931.....	68.5	73.0	75.1	67.6	66.1	97.3
1932.....	55.8	55.4	60.1	47.5	47.2	73.5
1933.....	53.1	58.1	62.7	48.3	44.5	69.4
1934.....	55.5	62.9	61.8	50.7	49.0	72.0
1935.....	55.0	65.8	63.2	55.0	53.4	68.4
1936.....	59.8	79.3	69.1	63.6	61.8	67.1
1937.....	62.7	84.7	69.4	66.6	66.8	68.4
1938.....	51.8	(⁸)	60.4	55.6	57.0	54.9
1939.....	(⁹)	(⁹)	(⁹)	(⁹)	(⁹)	(⁹)

¹ The figures for the Pullman Co. and for railway express services are included. With respect to the figures for dividends and interest the fact should be noted that both the National Bureau of Economic Research and the Department of Commerce have computed series for both from financial data compiled by the Interstate Commerce Commission. Estimates for overlapping years from the 2 sources are practically identical. Since the series is not based on figures from the Bureau of Internal Revenue, the index is comparable throughout the entire period. The methodology of the Department of Commerce is described in *National Income in the United States, 1929-35*, pp. 261-262.

² Wage earners only. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce estimates have been extrapolated on the basis of unpublished material of the National Bureau of Economic Research. Wages include gratuities.

³ Weighted average of freight ton-miles and passenger-miles as shown in *National Bureau of Economic Research Bulletin*, 59, p. 24.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Income produced. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce estimates have been extrapolated on the basis of the trend of the estimates of the National Bureau of Economic Research shown in *Simon Kuznets, National Income and Capital Formation, 1919-35*.

⁶ Excludes intercorporate dividend and interest payments and short-term interest.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE XXIII.—*Social performance of agriculture, 1919-38*¹

[1923-25=100]

Year	Employment ²	Production ³	Consumer effort commensurated ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁷
Amount in base years.....	11,398,000			⁷ \$7,291,000	⁷ \$6,941,000	⁷ \$350,700
1919.....	97.4	91.0	149.5	155.5	159.0	85.2
1920.....	99.7	95.0	106.8	123.9	125.2	96.4
1921.....	100.1	86.0	87.3	85.6	85.0	97.8
1922.....	100.4	96.0	84.3	80.1	79.1	100.0
1923.....	99.9	99.0	92.9	92.0	91.6	99.8
1924.....	99.7	101.0	101.9	100.9	101.0	99.8
1925.....	100.4	101.0	105.0	107.1	107.4	100.4
1926.....	101.2	106.0	98.4	100.4	100.4	100.4
1927.....	98.7	103.0	97.0	99.0	98.8	102.9
1928.....	99.1	108.0	95.4	100.2	100.1	102.6
1929.....	99.0	105.0	93.0	99.5	99.6	98.1
1930.....	98.0	105.0	76.3	77.1	76.2	95.2
1931.....	97.9	111.0	56.8	51.1	49.0	94.1
1932.....	97.1	104.0	44.3	35.0	32.4	86.7
1933.....	96.7	101.0	60.9	46.9	45.3	78.4
1934.....	95.2	98.0	76.1	62.4	61.7	76.1
1935.....	98.0	96.0	83.2	72.4	72.3	72.7
1936.....	96.5	99.0	89.0	81.9	82.4	72.4
1937.....	95.0	114.0	91.1	87.5	88.3	70.4
1938.....	94.3	108.0	81.0	74.5	74.9	66.1
1939.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ The series on labor income differs markedly from pay-roll indexes for other industries, because it includes returns to entrepreneurs. The supplementary table gives separate indexes for the income of farm operators and that of hired labor. Although the Department of Agriculture has released revised estimates of the cost of hired farm labor, these revisions have not been used due to the fact that the new estimates of farm expenditures necessary for revising the series of consumer funds absorbed have not yet been released by the Department of Agriculture. It was thought better to leave both series (labor income and consumer funds absorbed) unrevised so that they might be as nearly comparable as possible over the entire period.

² Family workers and hired workers. Figures from "Farm Employment, 1909 to 1938," Monthly Labor Review, June 1939, p. 1243. Separate indexes are given in Table XXVII-A to indicate the difference in trends of employment of the two groups.

³ Pay rolls represent net income of farm operators, including business savings, and wages paid to hired farm labor, including cost of board and lodging and other prerequisites. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, National Income and Capital Formation, 1919-35.

⁴ Index of volume of agricultural production for sale and for consumption in the farm home, on crop-year basis. U. S. Bureau of Agricultural Economics, Agricultural Production in 1938 was 5 percent lower than in 1937 (mimeographed release, Mar. 8, 1939).

⁵ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁶ Income produced. Figures for 1929-1938 from Robert R. Nathan, "National Income in 1938 at \$64,000,000,000," Survey of Current Business, June 1939, p. 11. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research.

⁷ The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, National Income and Capital Formation, 1919-35.

⁸ Thousands of dollars.

⁹ Comparable data not available.

TABLE XXIII-A.—*Employment and labor income of family workers and hired workers in agriculture, 1919-38*

[1923-25=100]

Year	Employment ¹		Labor income ²	
	Family workers ³	Hired workers ⁴	Operators' net income ⁵	Wages of hired labor ⁶
Amount in base years.....	8, 519, 000	2, 879, 000	⁷ \$5, 754, 000	⁷ \$1, 186, 000
1919.....	97. 7	96. 7	166. 5	123. 2
1920.....	99. 5	100. 1	121. 9	141. 5
1921.....	99. 9	100. 8	83. 8	90. 6
1922.....	100. 1	101. 3	77. 2	88. 2
1923.....	99. 7	100. 5	90. 0	99. 7
1924.....	99. 6	99. 8	101. 5	98. 2
1925.....	100. 7	99. 7	108. 5	102. 1
1926.....	99. 9	105. 1	99. 3	105. 9
1927.....	97. 4	102. 5	97. 2	106. 9
1928.....	97. 9	102. 7	98. 6	107. 7
1929.....	97. 5	103. 8	97. 8	108. 4
1930.....	97. 7	99. 0	72. 2	95. 8
1931.....	99. 4	93. 4	44. 3	71. 7
1932.....	100. 6	86. 8	28. 9	49. 4
1933.....	100. 8	84. 5	45. 6	43. 8
1934.....	99. 9	81. 5	64. 8	47. 2
1935.....	102. 2	85. 7	76. 1	54. 0
1936.....	99. 8	86. 6	87. 3	58. 3
1937.....	97. 1	88. 8	92. 7	67. 1
1938.....	96. 4	87. 8	77. 2	64. 1
1939.....	(⁸)	(⁸)	(⁸)	(⁸)

¹ Data are originally from U. S. Works Progress Administration, National Research Project, Report No. A-8: Trends in Employment in Agriculture, 1909-36, and U. S. Department of Agriculture, Crops and Markets, January 1939. They have been reproduced in Monthly Labor Review, June 1939, p. 1245.

² The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, National Income and Capital Formation, 1919-35.

³ Includes operating owners, tenants, and sharecroppers, together with working members of their families who are working without wages.

⁴ Includes hired laborers, managers, and foremen.

⁵ Includes business savings.

⁶ Total farm labor bill, including cost of board and lodging and other perquisites. It also includes a negligible amount of accident compensation.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE XXIV.—*Social performance of all manufacturing, 1919-38¹*

[1923-25=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁶
Amount in base years.....	7,838,700			7 \$25,003,100	7 \$9,786,000	7 \$1,915,000
1919.....	106.7	84.0	87.9	91.4	98.0	70.3
1920.....	107.1	87.0	(⁸)	(⁸)	117.2	83.2
1921.....	82.0	67.0	69.5	68.1	75.6	76.2
1922.....	90.7	86.0	(⁸)	(⁸)	81.2	73.8
1923.....	103.8	101.0	98.8	97.8	102.9	98.1
1924.....	96.4	94.0	(⁸)	(⁸)	96.0	94.2
1925.....	99.8	105.0	100.2	102.2	101.1	107.7
1926.....	101.7	108.0	(⁸)	(⁸)	104.2	118.4
1927.....	99.5	106.0	102.7	104.8	102.4	124.2
1928.....	99.7	112.0	(⁸)	(⁸)	103.5	140.4
1929.....	106.0	119.0	113.8	121.8	110.4	145.4
1930.....	92.4	95.0	(⁸)	(⁸)	89.4	149.2
1931.....	78.1	80.0	82.1	73.9	67.8	110.6
1932.....	66.3	63.0	(⁸)	(⁸)	46.7	68.3
1933.....	73.4	75.0	72.5	55.8	50.1	62.1
1934.....	85.7	78.0	(⁸)	(⁸)	64.5	71.0
1935.....	91.3	90.0	87.0	75.7	74.1	90.9
1936.....	99.0	105.0	(⁸)	(⁸)	85.8	133.3
1937.....	108.6	109.0	106.6	102.3	102.5	157.3
1938.....	89.7	84.0	(⁸)	(⁸)	77.9	94.6
1939.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ All manufacturing here includes the same fields of business as are covered by the Census of Manufactures, except that manufactured gas is included in electric light and power, railroad repair shops are covered in the transportation industry, motion pictures are included under service enterprises, and shipbuilding is put into the construction industry.

The series used for production is that of the unrevised Federal Reserve Board index which in recent years was somewhat low. When, for example, it is compared with that published in the Census of Manufactures, 1937, Part I, p. 17, for census years, it is practically identical for the census years 1919 to 1935, inclusive. In 1937, however, it is about 7 points lower than the census index (108 as compared with 115, using 1923 as the base year). The higher figure appears more reasonable when compared with the movement of the employment index. In a revision published too late (August 1940) to be used here the Federal Reserve Board verified this fact.

On the basis of the Department of Commerce estimates, the index of dividends and interest for 1934 would be somewhat higher—about 77 instead of 71 as shown on the table and chart—if the 1933 industrial classification of the Bureau of Internal Revenue had been used in 1934.

The index of consumer funds absorbed in manufacturing is based on the Census of Manufactures series "Value added by manufacture." The index differs slightly from the published census figures because adjustments have been made by deducting from the census totals the figures for motion pictures, manufactured gas, railroad repair shops, and shipbuilding. For 1935 and 1937 the cost of contract work had to be added to the published census figures. In computing this index the average of 1923 and 1925 was used as a base, since there was no figure available for 1924.

The indexes of employment and pay rolls have been adjusted to conform to the Census of Manufactures for 1937. The indexes are given in the following publications of the U. S. Bureau of Labor Statistics: Revised Indexes of Factory Employment and Pay Rolls, 1919-33 (Bul. No. 610); Revised Index Numbers of Factory Employment and Pay Rolls, mimeographed releases issued September 1938 and September 1939.

² U. S. Bureau of Labor Statistics indexes of employment and pay rolls for wage earners.

³ Federal Reserve Board index of production, unrevised series.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Value added by manufacture as computed by the Census of Manufactures.

⁶ Excludes intercorporate dividend and interest payments and short-term interest. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, National Income and Capital Formation, 1919-35.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE XXV.—*Social performance of the mining industry, 1919-38*

[1923-25=100]

Year	Employment ¹	Production ²	Consumer effort commanded ³	Consumer funds absorbed ⁴	Pay rolls ¹	Dividends and interest ⁵
Amount in base years.....	982,000			⁶ \$1,855,000	⁶ \$1,615,000	⁶ \$285,000
1919.....	104.1	77.0	87.6	91.1	82.7	77.2
1920.....	115.3	89.0	116.6	135.2	118.3	85.0
1921.....	85.9	70.0	72.1	70.7	86.0	81.8
1922.....	84.4	74.0	82.6	78.5	79.5	61.0
1923.....	106.8	105.0	108.9	107.8	114.7	92.1
1924.....	96.8	96.0	92.0	91.1	95.9	93.5
1925.....	96.5	99.0	99.1	101.1	89.5	114.4
1926.....	109.7	108.0	114.1	116.4	104.3	132.4
1927.....	100.3	107.0	91.4	93.2	91.7	114.0
1928.....	92.3	106.0	83.8	88.0	81.2	104.5
1929.....	96.8	115.0	90.1	96.4	83.4	144.1
1930.....	90.4	99.0	66.0	66.7	71.9	101.6
1931.....	78.3	84.0	41.1	37.0	51.4	63.5
1932.....	65.1	71.0	32.7	25.8	34.9	41.5
1933.....	66.7	82.0	37.4	28.8	35.8	38.9
1934.....	78.7	86.0	59.9	49.1	47.8	82.0
1935.....	80.3	91.0	59.1	51.4	50.6	79.8
1936.....	85.0	105.0	72.1	66.3	58.1	90.5
1937.....	89.4	115.0	80.2	77.0	64.3	107.8
1938.....	77.1	98.0	61.6	56.7	52.2	77.7
1939.....	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)	(⁷)

Wage earners and wages. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce estimates of wage earners have been extrapolated on the basis of the trend of the estimates made by the National Resources Committee from unpublished material of the National Bureau of Economic Research (published in *Patterns of Resource Use*, p. 149). The following industrial segments of the National Resources Committee tabulations for wage earners were combined: Petroleum, nonmetallic, bituminous coal, anthracite coal, iron ore, other metallic. For years prior to 1929 the Department of Commerce has extrapolated its estimates of wages on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, *National Income and Capital Formation, 1919-35*.

² Federal Reserve Board index of production, which includes coal and metal mines, oil and natural gas wells, nonmetallic mines, and quarrying.

³ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁴ Income produced. Figures for 1929-38 from Robert R. Nathan, *National Income in 1938 at \$64,000,000,000*, Survey of Current Business, June 1939, p. 11. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research. In order to make the 2 sets of estimates comparable, special adjustments of inventory valuations and of depreciation and depletion charges were eliminated from the estimates of the National Bureau. As a result of these adjustments, the 2 sets of figures in 1929 were very nearly the same. Note that in the base period the sum of wages and dividends and interest exceeded the total consumer funds absorbed due to negative business savings in that year.

⁵ Excludes intercorporate dividend and interest payments and short-term interest. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, *National Income and Capital Formation, 1919-35*. Sharp rise in 1934 is partly due to change in classification made by the Bureau of Internal Revenue. If made on the old basis, the index in 1934 would be about 53 instead of 82.

⁶ Thousands of dollars.

⁷ Comparable data not available.

TABLE XXVI.—*Social performance of transportation and other public utilities, 1919-38*

[1923-25=100]

Year	Employment ¹	Production ²	Consumer effort commanded ³	Consumer funds absorbed ⁴	Pay rolls ¹	Dividends and interest ⁵
Amount in base years.....	3,651,500			\$8,036,000	\$5,755,000	\$1,736,000
1919.....	99.1	89.0	79.2	82.4	89.6	75.5
1920.....	105.0	96.7	87.6	101.6	117.0	75.0
1921.....	89.4	80.1	85.8	84.1	93.6	75.2
1922.....	92.1	86.5	90.2	85.7	90.1	83.8
1923.....	101.4	99.8	98.9	97.9	100.4	91.9
1924.....	99.2	97.4	98.8	97.8	99.2	99.9
1925.....	99.4	102.8	102.3	104.3	100.4	108.2
1926.....	103.5	109.8	106.7	108.8	104.5	112.6
1927.....	102.9	109.6	105.1	107.2	103.5	124.2
1928.....	102.0	111.7	105.5	110.8	103.0	127.6
1929.....	104.8	116.7	109.4	117.1	106.6	139.5
1930.....	99.1	105.6	102.8	103.8	99.3	149.7
1931.....	87.2	92.5	96.6	86.9	84.9	136.5
1932.....	75.4	76.3	84.4	66.7	65.3	123.2
1933.....	72.2	77.1	83.8	64.5	59.6	109.0
1934.....	75.1	82.4	83.8	68.7	64.9	111.0
1935.....	75.8	86.5	84.4	73.4	70.3	114.5
1936.....	80.7	99.1	90.3	83.1	78.6	109.3
1937.....	84.9	105.5	92.8	89.1	86.4	110.9
1938.....	76.8	(?)	86.0	79.1	79.7	101.2
1939.....	(?)	(?)	(?)	(?)	(?)	(?)

¹ All employees; wages and salaries. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce estimates of all employees have been extrapolated on the basis of the trend of the estimates made by the National Resources Committee on the following: Telephone, telegraph; electric power, manufactured gas, railroads, shipping, street railways, motor transportation, pipe lines, and air transport. Its estimates, based on unpublished material of the National Bureau of Economic Research, were published in *Patterns of Resource Use*, p. 149. For years prior to 1929 the Department of Commerce has extrapolated its estimates of wages and salaries on the basis of the trend of the estimates of the National Bureau of Economic Research shown in *Simon Kuznets, National Income and Capital Formation, 1919-35*.

² Weighted average of indexes of physical volume of output for steam railroad transportation, street railways, telephones, and electric light and power, and gas shown in *National Bureau of Economic Research Bulletin* 59, p. 24. The weights were the average operating revenues for each industry for the years 1922, 1927, and 1932, those for the electric light and power, street railways, and telephones being taken from the *Census of Electrical Industries* while that for steam railroads was taken from the publications of the Interstate Commerce Commission. The weights for manufactured gas are the average value of products in 1921, 1927, and 1931 as compiled by the *Census of Manufactures*. On the basis of these figures the following weights were computed:

Electric light and power and manufactured gas.....	22.4
Steam railroad transportation.....	57.9
Street railways.....	9.2
Telephones and telegraphs.....	10.5

Telegraphs, pipe lines, and water, motor, and air transportation are not represented in the production index for lack of data.

³ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁴ Income produced. Figures for 1929-38 from Robert R. Nathan, *National Income in 1938 at \$64,000,000,000*, Survey of Current Business, June 1939, p. 11. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research. In order to make the 2 sets of estimates comparable, special adjustments of inventory valuations and of depreciation and depletion charges were eliminated from the estimates of the National Bureau. As a result of these adjustments, the 2 sets of figures in 1929 were very nearly the same.

⁵ Excludes intercorporate dividend and interest payments and short-term interest. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in *Simon Kuznets, National Income and Capital Formation, 1919-35*.

⁶ Thousands of dollars.

⁷ Comparable data not available.

TABLE XXVII.—*Social performance of the construction industry, 1919-38*¹

[1923-25=100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Consumer funds absorbed ⁵	Pay rolls ⁶	Dividends and interest ⁶
Amount in base years.....	1, 510, 000			\$ 3, 449, 000	\$ 2, 787, 000	\$ 55, 000
1919.....	86.9	63.0	55.2	57.4	55.2	38.2
1920.....	86.6	55.0	65.0	75.4	78.7	50.9
1921.....	71.0	62.0	56.6	55.5	77.6	80.0
1922.....	87.9	79.0	74.2	70.5	63.6	67.3
1923.....	100.0	89.0	96.6	95.6	99.7	85.5
1924.....	100.3	99.0	100.8	99.8	100.4	78.2
1925.....	99.6	112.0	102.5	104.6	99.9	134.5
1926.....	108.7	119.0	105.5	107.6	113.6	103.6
1927.....	104.1	117.0	103.4	105.5	109.9	114.5
1928.....	109.0	117.0	105.1	110.4	114.9	121.8
1929.....	109.8	114.0	102.0	109.1	112.8	147.3
1930.....	90.7	102.0	84.9	85.7	88.9	158.2
1931.....	64.3	81.0	59.4	53.5	57.6	101.8
1932.....	37.0	54.0	30.4	24.0	28.3	63.6
1933.....	29.1	33.0	20.6	15.9	17.8	54.5
1934.....	41.1	36.0	28.7	23.5	25.4	40.0
1935.....	43.0	41.0	30.7	26.7	27.2	52.7
1936.....	66.8	63.0	51.5	47.4	46.9	87.3
1937.....	68.5	69.0	56.2	54.0	53.6	129.1
1938.....	65.3	70.0	55.4	51.0	49.6	92.7
	(²)	(³)	(⁴)	(⁵)	(⁶)	(⁶)

¹ Construction covers the construction and alteration of buildings, roads, bridges, and other engineering structures, whether carried on under contract or by operators who build and sell. It excludes "force account" construction, i. e., operations undertaken by various industries with their own employees. It also includes shipbuilding. Moreover, the production index shown on the table and chart is that of the Construction and Real Property Section of the Department of Commerce. It differs somewhat from that prepared by the National Bureau of Economic Research for the period 1919-34, inclusive. (See National Bureau of Economic Research Bulletin 59, p. 24.) Both have been computed by deflating dollar volume of construction by an index of construction costs.

Comparison of indexes of volume of construction

[1923-25=100]

Year	Construction and Real Property Section	National Bureau of Economic Research	Year	Construction and Real Property Section	National Bureau of Economic Research
1919.....	63.0	67.0	1929.....	114.0	113.0
1920.....	55.0	61.0	1930.....	102.0	94.0
1921.....	62.0	71.0	1931.....	81.0	71.0
1922.....	79.0	91.0	1932.....	54.0	36.0
1923.....	89.0	96.0	1933.....	33.0	31.0
1924.....	99.0	98.0	1934.....	36.0	35.0
1925.....	112.0	107.0	1935.....	41.0	-----
1926.....	119.0	108.0	1936.....	63.0	-----
1927.....	117.0	113.0	1937.....	69.0	-----
1928.....	117.0	121.0	1938.....	70.0	-----

² All employees; wages and salaries. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce estimates concerning all employees have been extrapolated on the basis of the trend of the estimates made by the National Resources Committee from unpublished material of the National Bureau of Economic Research. For years prior to 1929 the Department of Commerce has extrapolated its estimates concerning wages and salaries on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, *National Income and Capital Formation, 1919-35*.

³ Index of physical volume of new construction activity prepared by the Construction and Real Property Section, Division of Economic Research, Department of Commerce. This index was arrived at by deflating the volume of construction by a construction-costs index. It does not include shipbuilding and is therefore not strictly comparable with the other series for this industry. The greatest discrepancies are in the years 1919-21, inclusive, when the volume of shipbuilding was considerable. In subsequent years the exclusion of shipbuilding probably does not seriously affect the comparability of this index with the others presented here.

⁴ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁵ Income produced. Figures for 1929-38 from Robert K. Nathan, *National Income in 1938 at \$64 000,000,000*, Survey of Current Business, June 1939, p. 11. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research. In order to make the 2 sets of estimates comparable, special adjustments of inventory valuations and of depreciation and depletion charges were eliminated from the estimates of the National Bureau. As a result of these adjustments, the 2 sets of figures in 1929 were very nearly the same.

⁶ Excludes intercorporate dividend and interest payments and short-term interest. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, *National Income and Capital Formation, 1919-35*.

⁷ Thousands of dollars.

⁸ Comparable data not available.

CONCENTRATION OF ECONOMIC POWER

TABLE XXVIII.—*Social performance of Government, 1919-38*¹

[1923-25=100]

Year	Employment ²	Consumer funds absorbed ³	Pay rolls ⁴	Interest ⁵
Amount in base years	2,883,000	⁶ \$5,298,000	⁶ \$3,853,000	⁶ \$1,211,000
1919	126.6	88.3	96.9	78.1
1920	100.5	89.9	90.2	92.9
1921	99.1	93.2	91.5	95.2
1922	95.3	94.2	91.1	100.1
1923	97.0	97.2	94.9	101.4
1924	100.6	100.0	99.7	98.6
1925	102.4	102.8	105.4	99.9
1926	104.6	106.3	111.0	100.7
1927	106.9	110.5	117.1	99.7
1928	109.9	114.4	122.6	99.5
1929	112.6	119.2	128.2	102.1
1930	116.3	121.4	131.5	100.5
1931	117.0	121.8	131.1	102.2
1932	115.7	119.8	127.1	105.8
1933	113.0	111.7	113.8	112.6
1934	116.3	116.9	118.0	121.1
1935	122.4	124.2	128.5	116.2
1936	129.7	133.3	139.2	120.0
1937	132.7	139.6	144.3	128.5
1938	135.5	145.4 ⁶	151.2	128.5
1939	(?)	(?)	(?)	(?)

¹ Government covers the operations of Federal, State, city, county, and township units and minor civil divisions, as well as public education and Government-owned utilities. Work-relief activities are excluded.

² All employees. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce estimates have been extrapolated on the basis of the trend of the estimates made by the National Resources Committee from unpublished material of the National Bureau of Economic Research.

³ Income produced. Figures for 1929-38 from Robert R. Nathan, "National Income in 1938 at \$64,000,000,000," Survey of Current Business, June 1939, p. 11. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research.

⁴ Wages and salaries. For the years 1929 to 1938, inclusive, the estimates of the Department of Commerce were used. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, National Income and Capital Formation, 1919-35.

⁵ For the years 1929 to 1938, inclusive, the estimates of the Department of Commerce were used, being based on Daily Treasury Statements of the United States Treasury and publications of the Bureau of the Census on financial statistics of State and local governments. (See National Income in the United States, 1929-35, pp. 282-283.) For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, National Income and Capital Formation, 1919-35.

⁶ Thousands of dollars.

⁷ Comparable data not available.

TABLE XXIX.—*Social performance of finance, 1919-38*¹

[1923-25=100]

Year	Employment ²	Consumer funds absorbed ³	Pay rolls ⁴	Dividends and interest ⁵
Amount in base years.....	969,000	\$ 6,704,000	\$ 1,720,000	\$ 1,581,000
1919.....	84.5	74.0	71.7	60.5
1920.....	90.3	78.4	83.4	66.9
1921.....	91.5	78.6	85.0	68.1
1922.....	88.2	85.6	84.8	75.8
1923.....	94.5	93.0	93.5	90.1
1924.....	101.2	101.0	101.7	97.3
1925.....	104.4	106.1	104.8	112.5
1926.....	113.4	110.6	115.5	122.2
1927.....	121.3	117.0	125.5	138.3
1928.....	128.5	128.4	135.8	153.4
1929.....	136.8	131.9	146.9	170.1
1930.....	133.1	116.9	140.6	171.7
1931.....	124.2	95.5	124.8	167.1
1932.....	118.6	76.7	110.6	140.5
1933.....	113.1	67.9	99.1	114.6
1934.....	114.4	73.4	102.6	116.9
1935.....	113.5	79.5	104.4	111.7
1936.....	115.6	90.2	111.9	107.7
1937.....	117.5	98.1	118.3	106.3
1938.....	116.3	91.2	114.0	103.9
1939.....	(7)	(7)	(7)	(7)

¹ With respect to the figures on employment, the series published by the Department of Commerce is more inclusive than that of the National Resources Committee which formed the basis of the estimates for years prior to 1929. The former includes employment in brokerage and building and loans associations in the category of "finance" whereas the National Resources Committee put them in the "miscellaneous" classification. But the trends of the 2 series are similar in overlapping years. Moreover, the estimates are at best approximate so that the refinement of adjustment for coverage was considered unwarranted. Note that the total of consumer funds absorbed is more than double the sum of pay rolls and dividends and interest, a margin of excess much larger than in any of the other industrial groups. This is due in considerable part to the fact that finance includes banking, insurance, and real estate. In the real-estate business large amounts of net rents and royalties are received.

² All employees. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce estimates have been extrapolated on the basis of the trend of the estimates made by the National Resources Committee from unpublished material of the National Bureau of Economic Research.

³ Income produced. Figures for 1929-38 from Robert R. Nathan, "National Income in 1938 at \$64,000,000,000," Survey of Current Business, June 1939, p. 11. For years prior to 1939 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research. In order to make the 2 sets of estimates comparable, special adjustments of inventory valuations and of depreciation and depletion charges were eliminated from the estimates of the National Bureau. As a result of these adjustments, the 2 sets of figures in 1929 were very nearly the same.

⁴ Wages and salaries. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, National Income and Capital Formation, 1919-35.

⁵ Excludes intercorporate dividend and interest payments and short-term interest. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, National Income and Capital Formation, 1919-35.

⁶ Thousands of dollars.

⁷ Comparable data not available.

CONCENTRATION OF ECONOMIC POWER

TABLE XXX.—*Social performance of service, 1919-38*¹

[1923-25=100]

Year	Employment ²	Consumer funds absorbed ³	Pay rolls ⁴	Dividends and interest ⁵
Amount in base years	4,713,000	\$ 7,714,000	\$ 4,869,000	\$ 189,000
1919.....	83.3	72.2	59.6	40.7
1920.....	84.3	79.0	70.7	85.7
1921.....	85.8	71.8	67.9	75.7
1922.....	90.2	86.4	85.6	65.1
1923.....	96.7	93.2	90.9	86.8
1924.....	100.2	98.8	98.9	93.7
1925.....	103.2	108.0	110.2	120.1
1926.....	109.1	114.5	114.6	138.1
1927.....	113.0	112.5	117.3	152.4
1928.....	116.1	120.1	125.3	155.0
1929.....	122.7	126.4	133.4	184.1
1930.....	117.7	114.7	123.9	192.6
1931.....	108.6	96.5	106.8	149.7
1932.....	97.9	73.0	85.1	104.2
1933.....	94.4	69.6	75.6	63.5
1934.....	103.9	80.8	85.2	75.7
1935.....	109.7	88.7	92.7	82.0
1936.....	116.9	99.3	102.5	113.2
1937.....	122.6	111.3	114.2	117.5
1938.....	115.5	106.3	107.3	92.6
1939.....	(?)	(?)	(?)	(?)

¹ "Service" covers a wide variety of activities including professional, personal, domestic, business, and miscellaneous services, and recreation and amusement.

² All employees. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce estimates have been extrapolated on the basis of the trend of the estimates made by the National Resources Committee from unpublished material of the National Bureau of Economic Research.

³ Income produced. Figures for 1929-38 from Robert R. Nathan, "National Income in 1938 at \$64,000,000,000," Survey of Current Business, June 1939, p. 11. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research. In order to make the 2 sets of estimates comparable, special adjustments of inventory valuation and of depreciation and depletion charges were eliminated from the estimates of the National Bureau. As a result of these adjustments, the 2 sets of figures for 1929 were very nearly the same.

⁴ Wages and salaries. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, National Income and Capital Formation, 1919-35.

⁵ Excludes intercorporate dividend and interest payments and short-term interest. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, National Income and Capital Formation, 1919-35.

⁶ Thousands of dollars.

⁷ Comparable data not available.

TABLE XXXI.—*Social performance of trade, 1919-38*¹

[1923-25=100]

Year	Employment ²	Consumer funds absorbed ³	Pay rolls ⁴	Dividends and interest ⁵
Amount in base years.....	4,662,000	\$10,483,000	\$7,094,000	\$429,000
1919.....	86.5	109.6	82.2	101.6
1920.....	93.9	93.6	91.6	99.3
1921.....	86.1	66.8	78.2	84.4
1922.....	90.8	88.2	85.8	80.0
1923.....	96.8	99.9	96.4	91.6
1924.....	100.2	97.2	98.4	98.4
1925.....	102.9	102.9	105.2	110.3
1926.....	106.0	104.6	111.7	116.1
1927.....	109.1	101.6	109.1	123.3
1928.....	109.8	106.3	111.9	127.0
1929.....	115.1	107.7	118.6	145.5
1930.....	110.0	89.7	112.7	131.7
1931.....	99.3	72.4	98.3	104.7
1932.....	87.9	51.3	76.3	62.7
1933.....	87.0	57.4	67.5	52.4
1934.....	90.3	67.1	74.7	86.7
1935.....	90.7	72.3	77.7	111.0
1936.....	94.4	80.7	82.8	165.3
1937.....	99.1	87.6	91.2	164.1
1938.....	94.5	83.6	88.1	124.5
1939.....	(7)	(7)	(7)	(7)

¹ "Trade" comprises wholesale and retail trade as classified in the Census of Distribution in 1929 except that restaurants are not included here but are placed under "service."

² All employees. The Department of Commerce estimates were used for the years 1929 to 1933, inclusive. For years prior to 1929 the Department of Commerce estimates have been extrapolated on the basis of the trend of the estimates made by the National Resources Committee from unpublished material of the National Bureau of Economic Research.

³ Income produced. Figures for 1929-38 from Robert R. Nathan, "National Income in 1938 at \$64,000,000,000," Survey of Current Business, June 1939, p. 11. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research. In order to make the 2 sets of estimates comparable, special adjustments of inventory valuation and of depreciation and depletion charges were eliminated from the estimates of the National Bureau. As a result of these adjustments the 2 sets of figures in 1929 were very nearly the same.

⁴ Wages and salaries. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, National Income and Capital Formation, 1919-35.

⁵ Excludes intercorporate dividend and interest payments and short-term interest. The Department of Commerce estimates were used for the years 1929 to 1938, inclusive. For years prior to 1929 the Department of Commerce has extrapolated its estimates on the basis of the trend of the estimates of the National Bureau of Economic Research shown in Simon Kuznets, National Income and Capital Formation, 1919-35.

⁶ Thousands of dollars.

⁷ Comparable data not available.

TABLE XXXII.—*Social performance of General Motors Corporation, 1919-38*¹

[1923-25 = 100]

Year	Employment ²	Production ³	Consumer effort commanded ⁴	Net sales ⁵	Pay rolls ⁶	Dividends ⁷
Amount in base years.....	82,728			⁷ \$666,880	⁷ \$128,505	⁷ \$44,513
1919.....	103.9	52.9	73.5	76.4	81.2	48.4
1920.....	97.4	53.0	73.4	85.1		52.8
1921.....	55.6	29.0	46.5	45.6	51.4	60.2
1922.....	79.0	61.7	73.2	69.5	74.0	37.3
1923.....	110.3	107.8	105.8	104.7	107.6	71.1
1924.....	89.0	79.2	86.1	85.2	86.0	72.6
1925.....	100.7	112.8	108.0	110.2	106.4	156.3
1926.....	156.6	166.7	155.6	158.7	171.9	250.6
1927.....	212.3	210.9	189.5	193.3	235.7	323.4
1928.....	252.6	244.4	211.6	222.2	284.3	392.5
1929.....	282.0	256.3	214.8	229.8	303.1	373.1
1930.....	209.0	158.4	149.3	150.8	217.4	314.6
1931.....	190.5	145.1	138.0	124.2	184.0	314.2
1932.....	140.4	76.0	83.7	66.1	111.5	142.0
1933.....	166.5	117.3	113.6	87.5	133.2	141.5
1934.....	231.1	167.3	157.8	129.4	204.8	165.4
1935.....	255.9	231.6	199.2	173.3	255.0	237.4
1936.....	278.7	275.0	234.6	215.8	298.9	454.0
1937.....	316.7	285.7	250.9	240.9	358.3	381.3
1938.....	228.5	176.5	173.9	160.0	234.1	165.2
1939.....	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)

¹ The basic data for this corporation have been taken from Federal Trade Commission, Report on Motor Vehicle Industry (76th Cong., 1st sess., H. Doc. No. 468), published in 1939. The series has been continued through 1938 from the report on the corporation published in Moody's Industrials for 1939.

The dividends series represents cash dividends on preferred and common stock of General Motors Corporation and consolidated subsidiaries. A complete series on interest expense was not available, but the inclusion of this item would have a negligible effect on the index, since interest expense ranged from only \$542,000 to \$2,464,000 per year in the period 1927-37, inclusive. Likewise it was not possible to deduct dividends and interest received, since figures on "income from outside investments" were available for only 1927-37, inclusive. This item was more sizable, ranging from \$8,145,000 in 1927 to \$30,338,000 in 1935.

Since no figures were available on cost of raw materials, etc., which would permit the computation of a series corresponding to consumer funds absorbed, the figures on net sales were utilized. This series represents the net sales by General Motors Corporation and consolidated subsidiaries of motorcars, accessories, parts, and numerous other products. Intercompany sales have been eliminated in arriving at net sales.

The production index is based on total sales of passenger and commercial cars to dealers, including Canadian sales, overseas shipments, and production by foreign subsidiaries. It is therefore less inclusive than the sales and dividend series which include amounts derived from the sales of accessories, refrigeration equipment, and numerous other products of General Motors.

² The pay rolls for 1921 and subsequent years include salaries and wages. Neither the number of employees nor the pay rolls include certain subsidiaries such as Adam Opel, A. G., Vauxhall Motors, Ltd., Yellow Truck & Coach Co., and Fisher Body Corporation, prior to acquisition of the minority interest as of June 30, 1926. Based on figures in Federal Trade Commission, Report on Motor Vehicle Industry, pp. 545-546. Beginning with 1920, employment figures are based on averages for the year. Figures on pay rolls include appreciation fund distributions of \$4,647,025 in 1935 and \$9,165,554 in 1936.

³ Total sales of passenger and commercial cars to dealers, including Canadian sales, overseas shipments, and production by foreign subsidiaries. Based on figures in report on General Motors Corporation in Moody's Industrials for various years.

⁴ Index of net sales divided by Snyder's index of the general price level.

⁵ Based on figures in Federal Trade Commission, op. cit., p. 431.

⁶ Cash dividends paid, based on figures in Federal Trade Commission, op. cit., p. 431.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE XXXIII.—*Social performance of United States Steel Corporation and subsidiaries, 1919-33*¹

(1923-25=100)

Year	Employment ²	Ingot production ³	Consumer effort commanded ⁴	Sales and other revenues ⁵	Pay rolls ⁶	Dividends and interest ⁷
Amount in base years.....	252,457			\$1,012,702	\$456,234	\$86,160
1919.....	(⁸)	92.6	105.4	109.6	105.1	93.7
1920.....	105.9	103.8	110.3	128.0	127.5	92.8
1921.....	75.9	59.0	73.2	71.7	73.0	91.8
1922.....	85.1	86.6	84.1	79.9	70.7	91.7
1923.....	103.3	109.5	109.0	108.0	102.9	95.7
1924.....	97.7	88.7	91.8	90.9	97.0	102.3
1925.....	99.0	101.8	99.1	101.1	100.1	102.0
1926.....	100.3	109.4	105.3	107.4	102.4	101.6
1927.....	91.7	99.6	93.1	95.0	94.4	117.3
1928.....	87.8	108.3	95.0	99.8	90.7	117.0
1929.....	89.1	117.8	100.9	108.0	92.1	120.7
1930.....	83.6	90.1	82.2	83.0	85.8	105.9
1931.....	80.7	54.3	60.4	54.4	58.5	78.5
1932.....	62.6	26.5	36.1	28.5	29.4	30.2
1933.....	68.4	43.3	48.3	37.2	35.8	14.4
1934.....	75.2	46.6	51.0	41.8	46.1	14.2
1935.....	77.2	59.9	61.7	53.7	55.1	14.1
1936.....	88.1	91.0	85.0	78.2	74.3	64.2
1937.....	103.5	99.8	105.8	101.6	97.1	84.0
1938.....	80.0	50.6	65.6	60.4	61.8	38.9
1939.....	(⁹)	(⁹)	(⁹)	(⁹)	(⁹)	(⁹)

¹ Most of the data were prepared by the United States Steel Corporation and submitted in hearings before the Temporary National Economic Committee as exhibit 1409. Note that the sales and other revenues are used to represent the funds absorbed from consumers inasmuch as data on cost of raw materials, etc., were not available.

In the absence of a general index of steel production, the figures on ingots are used, the analysis here in that regard following the example of the United States Steel Corporation in its comparisons of production and employment. The corporation and its subsidiaries engage in a wide variety of activities such as mining, transportation, and the manufacture of cement, in addition to the production of steel. The production series, therefore, is less inclusive than the other series, but it is used in the absence of a reliable index covering the output of all goods and services of the corporation.

² Employment figures are based on average number of employees in the service of all companies during each year, compiled from reports on the United States Steel Corporation in Moody's Industrials for various years. Pay rolls represent total wages and salaries paid to all employees of all companies and include a relatively small amount of construction pay roll, which it was not possible to exclude in early years. Based on data submitted by the United States Steel Corporation to the Temporary National Economic Committee, exhibit 1409, A-10.

³ Includes production of castings. Based on data presented before the Temporary National Economic Committee, exhibit 1409, D-3.

⁴ Index of sales and other revenues divided by Snyder's index of the general price level.

⁵ Sales and other revenues represent the total amount available for the payment of all expenses and other obligations. In eliminating intercompany business, amounts applicable to transportation companies were partially estimated. Based on data submitted by the United States Steel Corporation to the Temporary National Economic Committee, exhibit 1409, A-10.

⁶ Interest and cash dividend payments to investors. Interest includes bond premium and discount. No deductions have been made of dividends and interest received, due to lack of data. Based on data submitted by the United States Steel Corporation to the Temporary National Economic Committee, exhibit 1409, A-10.

⁷ Thousands of dollars.

⁸ Comparable data not available.

TABLE XXXIV.—*Social performance of the Bell System, 1919-38*

[1923-25=100]

Year	Employment ¹	Production ²		Consumer effort com- manded ³	Operating revenues ⁴	Pay rolls ⁵	Dividends and interest ⁶
		Weighted	Unweighted				
Amount in base years.....	281,580				⁶ \$687,640	⁶ \$360,238	⁶ \$124,499
1919.....	74.5	69.5	66.5	54.2	56.4	55.3	54.2
1920.....	82.1	73.8	72.4	57.4	66.6	73.2	57.6
1921.....	79.6	79.1	76.5	75.2	73.7	76.3	68.0
1922.....	86.3	87.4	83.7	85.5	81.2	82.5	78.8
1923.....	96.6	94.5	93.4	91.5	90.6	92.7	88.5
1924.....	99.3	99.7	100.0	99.6	98.6	101.3	99.7
1925.....	104.1	106.0	106.5	108.5	110.7	106.0	111.8
1926.....	106.8	113.1	114.3	120.4	122.8	113.4	120.4
1927.....	109.7	119.0	120.5	130.7	133.3	119.3	130.8
1928.....	118.7	126.4	128.9	139.0	145.9	129.5	137.3
1929.....	129.3	136.5	140.1	151.6	162.2	146.2	154.1
1930.....	115.2	134.2	142.6	165.8	167.5	148.4	179.0
1931.....	104.7	128.7	141.7	179.8	161.8	134.2	197.3
1932.....	94.6	115.4	133.3	179.4	141.7	115.0	192.9
1933.....	88.2	107.2	125.0	168.8	130.0	98.9	190.8
1934.....	88.4	110.6	128.4	159.5	130.8	103.2	193.4
1935.....	86.9	113.9	133.4	158.6	138.0	107.5	189.2
1936.....	92.1	124.2	143.7	161.4	148.5	115.8	188.3
1937.....	97.9	130.5	152.2	163.5	157.0	132.2	181.3
1938.....	93.9	131.0	154.6	170.9	157.2	135.7	179.6
1939.....	(7)	(7)	(7)	(7)	(7)	(7)	(7)

¹ Employment series based on all employees and pay-roll series on salaries and wages. Employees of Western Electric Co., Inc., are not included. Based on figures from American Telephone & Telegraph Co. Comptroller's Annual Report 1936, Part I, Bell System, Statement No. 54, and the same for 1938, Statement No. 48. Beginning with 1933 occasional employees and those on leave of absence without pay for periods longer than 1 month are not included. Furthermore, for the years 1936, 1937, and 1938 the published figures for the Bell System have been raised to include The Southern New England Telephone Co. and The Cincinnati & Suburban Bell Telephone Co. in order to make the series comparable. Data for these companies were supplied by the Federal Communications Commission.

² Weighted average of exchange and toll messages of the Bell System as computed by the National Bureau of Economic Research and published in its Bulletin No. 59. The unweighted figure is based on average daily conversations as reported in Federal Communications Commission, Special Investigation, Docket No. 1, Report on American Telephone & Telegraph Co., Corporate and Financial History, vol. I, p. 115.

³ Index of operating revenues divided by Snyder's index of the general price level.

⁴ Federal Communications Commission, Special Investigation, vol. I, p. 169.

⁵ Dividends paid to the public after intercompany dividends have been eliminated, and interest paid but making no allowance for interest received due to lack of data. Figures for dividends from Federal Communications Commission, Special Investigation, vol. I, p. 109. Figures for interest from Annual Report of the American Telephone & Telegraph Co., for respective years.

⁶ Thousands of dollars.

⁷ Comparable data not available.

TABLE XXXV.—*Social performance of the telephone and telegraph industry, 1919-38*

[1923-25=100]

Year	Employment ¹	Production ²	Consumer effort commanded ³	Consumer funds absorbed ⁴	Pay rolls ⁵	Dividends and interest ⁶
Amount in base years	419,000			\$716,100	\$504,200	\$127,000
1919	83.5	69.5	58.4	60.7	61.3	63.2
1920	89.5	73.8	64.7	75.0	80.8	65.8
1921	85.5	79.1	79.1	77.5	80.3	74.2
1922	89.5	87.4	88.6	84.2	85.1	78.3
1923	97.0	94.5	93.6	92.7	94.1	88.7
1924	99.4	99.7	99.7	98.7	100.7	98.1
1925	103.6	106.0	106.7	108.8	105.3	113.2
1926	106.2	113.1	114.8	117.1	113.3	120.9
1927	107.6	119.0	120.1	122.5	116.9	131.1
1928	111.9	126.4	125.2	131.5	124.9	132.0
1929	124.8	136.5	136.4	146.0	140.2	143.3
1930	122.5	134.2	139.8	141.2	142.0	162.0
1931	107.4	128.7	140.8	126.7	127.2	178.3
1932	96.0	115.4	127.7	100.9	105.8	189.4
1933	90.0	107.2	115.8	89.2	91.4	189.6
1934	90.0	110.6	115.7	94.9	97.0	189.4
1935	88.8	113.9	116.0	100.9	100.5	188.0
1936	90.9	124.2	116.5	107.2	106.5	176.0
1937	97.4	130.5	118.7	114.0	119.6	172.9
1938	91.1	131.0	122.1	112.3	120.7	158.7
1939	(7)	(7)	(7)	(7)	(7)	(7)

¹ Employment series based on all employees and pay-roll series on salaries and wages. Figures for 1929-38 are from the National Income Division, Department of Commerce, and those for prior years have been obtained by extrapolating the Department of Commerce estimates on the basis of the trend of estimates of the National Bureau of Economic Research.

² Index of production for telephones only shown in National Bureau of Economic Research Bulletin 59, p. 24. Since comparable production data for the telegraph industry were not available prior to 1926, it was decided to present the series for telephones only in order to use 1923-25 as the base period. The inclusion of telegraph messages would make the trend less steep. However, experimentation with the period since 1926 indicates that the inclusion of telegraph messages does not alter the production index materially because telephones accounted on the average for about 85 percent of the total operating revenues for the communications industry over the period 1922-32.

³ Index of consumer funds absorbed divided by Snyder's index of the general price level.

⁴ Income produced. The figures for consumer funds absorbed are based on estimates for 1929-38 of the Department of Commerce on "income produced." These have been extrapolated for the earlier years on the basis of the series of the National Bureau. Although the dividends-and-interest series from the two sources differed noticeably in some years, the trends of the 2 series of "income produced" were sufficiently alike to justify this method of extrapolation.

⁵ Excludes intercorporate dividend and interest payments. Estimates of the National Bureau of Economic Research have been used for the period 1919-35 and figures for subsequent years have been extrapolated by means of Department of Commerce estimates. The reason for using the series on dividends and on interest of the National Bureau of Economic Research is that it corresponds more closely with the trend shown by figures submitted by the telephone industry than does the series used by the Department of Commerce which is based on data taken from the Statistics of Income. Since the figures of the National Bureau do not extend beyond 1935, they were extrapolated on the basis of the estimates of the Department of Commerce. The 2 series are in sufficiently close agreement in 1934 and 1935 to make the extrapolation valid. The figures for 1936-38, however, must be regarded as tentative. Since the series of the National Bureau of Economic Research is not based on data taken from the Bureau of Internal Revenue, it is not affected by the change in industrial classification in 1934. It is reasonably homogeneous throughout the period.

⁶ Thousands of dollars.

⁷ Comparable data not available.

TABLE XXXVI.—*Interest, taxes, and cash dividends of all corporations, 1921-37¹*

[In millions]

Year	Interest paid	Taxes paid ²	Cash dividends paid ³	Year	Interest paid	Taxes paid ²	Cash dividends paid ³
1921.....	\$3,141	\$2,175	\$2,687	1930.....	\$4,861	\$3,009	\$5,631
1922.....	3,069	2,302	2,634	1931.....	4,492	2,630	4,182
1923.....	3,278	2,572	3,299	1932.....	4,043	2,373	2,626
1924.....	3,445	2,552	3,424	1933.....	3,511	2,547	2,102
1925.....	3,617	2,994	4,014	1934.....	3,422	2,758	2,672
1926.....	3,989	3,108	4,439	1935.....	3,261	3,363	2,927
1927.....	4,375	3,145	4,765	1936.....	3,081	4,149	4,702
1928.....	4,581	3,387	5,157	1937.....	3,003	4,942	4,832
1929.....	4,925	3,415	5,763				

¹ Compiled from the U. S. Bureau of Internal Revenue, *Statistics of Income* and published in National City Bank of New York, *Economic Conditions, Governmental Finance, United States Securities*, April 1935, p. 61, and January 1939, p. 9. Interest and dividends paid from 1933-36 compiled directly from *Statistics of Income*.

² Includes Federal normal income tax, surtax on undistributed profits, and excess-profits tax for 1936, and State, local, and other taxes for 1935.

³ Excludes intercorporate dividends.

⁴ Partly estimated.

TABLE XXXVII.—*Employment, production, and national income, 1919-39*

Year	Number employed ¹	Indexes, 1923-25=100			
		Employment	Industrial production ²	Agricultural production ³	National income in constant prices ⁴
1919.....	42,029,000	97.2	82.8	90.9	70.5
1920.....	41,339,000	95.6	86.2	96.4	63.8
1921.....	37,691,000	87.2	66.7	87.0	75.2
1922.....	40,049,000	92.6	83.9	95.3	87.9
1923.....	43,011,000	99.5	101.1	98.5	97.9
1924.....	42,515,000	98.3	94.3	100.4	100.2
1925.....	44,192,000	102.2	104.6	101.1	101.8
1926.....	45,498,000	105.2	110.3	105.7	108.6
1927.....	45,319,000	104.8	109.2	102.8	111.9
1928.....	46,057,000	106.5	113.8	108.2	116.2
1929.....	47,925,000	110.8	126.4	104.8	123.1
1930.....	45,216,000	104.6	104.6	104.7	114.4
1931.....	41,551,000	96.1	86.2	110.7	106.6
1932.....	37,704,000	87.2	66.7	103.4	89.4
1933.....	38,086,000	88.1	79.3	100.6	92.9
1934.....	41,002,000	94.8	86.2	97.1	98.0
1935.....	42,357,000	98.0	100.0	96.0	99.9
1936.....	44,783,000	103.6	115.4	98.4	113.8
1937.....	46,639,000	107.9	129.9	112.0	117.1
1938.....	43,600,000	100.8	101.1	107.9	114.3
1939.....	45,314,000	104.8	121.1	111.1	126.7

¹ National Industrial Conference Board, *Economic Record*, Mar. 20, 1940, p. 78.

² Computed from Federal Reserve Bulletin, vol. 26, No. 8, Aug. 1940, p. 764. Base shifted to 1923-25.

³ Hearings before the Temporary National Economic Committee, Part 1, exhibit No. 20, p. 204.

⁴ Ibid., exhibit No. 6, p. 195.

TABLE XXXVII-A.—*National income, labor income, and dividends and interest in all industries, 1919-39*¹

Year	National income ²		Labor income ³		Dividends and interest ⁴	
	Millions	Index ⁵	Millions	Index ⁵	Millions	Index ⁵
1919.....	\$68,605	96.7	\$37,548	84.8	\$5,907	72.9
1920.....	69,457	97.9	44,217	99.8	6,592	81.3
1921.....	51,452	72.5	35,166	79.4	6,443	79.5
1922.....	59,720	84.2	37,370	84.4	6,646	82.0
1923.....	69,400	97.8	43,619	98.5	7,707	95.1
1924.....	69,221	97.6	43,591	98.4	7,878	97.2
1925.....	74,154	104.6	45,695	103.1	8,737	107.8
1926.....	76,345	107.6	48,408	109.3	9,277	114.4
1927.....	75,153	106.0	48,526	109.5	9,852	121.5
1928.....	79,100	111.5	49,958	112.8	10,485	129.3
1929.....	82,885	116.9	52,776	119.1	11,851	146.2
1930.....	68,901	97.1	47,919	108.2	11,715	144.5
1931.....	54,310	76.6	40,303	91.0	10,270	126.7
1932.....	40,074	56.5	31,394	70.9	8,393	103.5
1933.....	42,430	59.8	28,946	65.3	7,351	90.7
1934.....	50,347	71.0	32,814	74.1	7,937	97.9
1935.....	55,870	78.8	35,893	81.0	8,055	99.4
1936.....	65,165	91.9	40,021	90.3	9,721	119.9
1937.....	71,172	100.3	44,809	101.1	9,794	120.8
1938.....	63,610	89.7	41,037	92.6	8,258	101.9
1939.....	69,378	97.8	43,703	98.6	8,956	110.5

¹ See Appendix D reproducing Robert R. Nathan, "National Income at nearly 70 Billion Dollars," Survey of Current Business, June 1940, pp. 2-3; and Simon Kuznets, National Income in 1939, and Capital Formation, 1919-35, National Bureau of Economic Research, 1938. Department of Commerce estimates were used for the years 1929-39, inclusive. For years prior to 1929, Department of Commerce estimates were extrapolated on the basis of the trend of the estimates of the National Bureau of Economic Research. In order to make the 2 sets of estimates comparable, savings of Government, imputed rent, and special adjustments of inventory valuations and of depreciation and depletion charges were eliminated from National Bureau estimates. As a result of these adjustments, the 2 sets of figures in 1929 were very nearly the same.

² Total national income produced. Excludes work-relief wages and Social Security contributions of employers.

³ Includes salaries, wages, and other compensation but excludes work-relief wages and Social Security contributions of employers.

⁴ Cash dividend and interest payments, including payments to other corporations, and short-term interest.

⁵ 1923-25=100.

APPENDIX C

METHOD OF COMPUTING COMPOSITE RATINGS

Separate industries and groups of industries were rated on the basis of long-time trends, measuring economic behavior in several ways over that period of years for which data were available. Thus comparisons were avoided based on the arbitrary and unreliable selection of particular years. But the arbitrary selection of a type of trend could not be avoided. Rather than fit different trends it was thought best to use one type throughout, the simplest one, the straight line. This is not used to show growth nor should it be regarded as the only type warranted by the underlying economic developments. It is simply used as a method of finding average annual increment, positive or negative. Thus the average annual increment or coefficient of regression was computed by the familiar formula, $b = \frac{\sum xy}{\sum x^2}$, where b =average increment; x =deviation from point of origin or median year; and y =index value for the given year.¹

In rating industry groups, both by five and eight criteria, the same time period, 1919-38, was used for each measure of behavior. The annual increments of production, employment, pay rolls, consumer funds absorbed, consumer effort commanded, and dividends and interest were computed. To determine the extent to which employment tended to outstrip production, the average annual production increment was subtracted from the average annual employment increment. Similar methods were employed to determine whether or not production outstripped consumer effort commanded (a rough measure of relative price behavior); whether or not pay rolls had increased more rapidly than consumer funds absorbed; whether or not pay rolls had outstripped dividends and interest; and whether or not consumer funds absorbed had increased more rapidly than dividends and interest. A minus increment value indicates behavior in the reverse direction to that described above.

In the rating of individual industries, limitations available data required the use of varying time periods for different types of behavior. Indexes of consumer funds absorbed were available for odd years only in the period 1919-37; for dividends and interest the period used was 1926-36. Increments of production, employment, and pay rolls for the years 1927-38 were computed and comparisons made over this time period. Increments for production, pay rolls, and consumer funds absorbed were computed for the period 1927-37; and pay rolls and dividends and interest for the years 1926-36, and comparison made on the basis.

Two methods were used to arrive at a composite rating for each industry or industry group. By the first method, the industries or

¹ See any textbook on statistics, e. g., Robert Enamet Chaddock, *Principles and Methods of Statistics*, pp. 320-325.

groups were given a numerical rank in accordance with the magnitude of the increment. These integers were cumulated to give the composite rating. The second method employed was to summate the increments algebraically, and rate the industries or groups accordingly.

The accompanying table reveals the weaknesses in the use of particular years to measure social behavior of industry. Taking 1927 as 100, the employment index was divided by the production index in an attempt to determine the relative extent to which employment kept pace with production in different industries.

Woolen and worsted goods ranked first in 1930 and fourteenth in 1935. Slaughtering and meat packing was rated second in 1929, seventeenth in 1934, and first in 1937.

It was to avoid the tendency to emphasize sporadic behavior of individual industries that the method of measuring the slope of the secular trend line was devised. The latter method is less susceptible to error inherent in the selection of arbitrary years.

Relation of employment to production—Industry ratings by years 1928-37¹

Industry	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	Total	Rank	Value or range of median
Woolen and worsted goods.....	3	3	1	11	11	10	10	14	10	10	83	8	10
Tobacco.....	14	20	20	19	19	20	20	20	20	20	192	20	20
Slaughtering and meat packing.....	7	2	10	14	15	16	17	2	4	1	88	10	7-10
Petroleum refining.....	19	15	12	17	17	17	18	16	18	18	167	18	17
Paper and pulp.....	10	13	11	13	12	14.5	12	13	14	17	130	13	13
Lumber and timber products.....	5	7	5	8	6	7	6	9	7	4	64	4	6-7
Knit goods.....	² 15	12	² 16	16	² 16	18	16	15	16	16	156	17	16
Iron and steel.....	18	18	9	3	1	2	1	3	9	6	70	6/7	3-6
Furniture.....	6	9	4	4	4	3	3	7	2	3	45	2/3	4
Flour and grain-mill products.....	11	16	19	18	18	14.5	14	10	8	8	136	15	14
Cotton goods.....	4	8	3	10	13	9	5	8	13	11	84	9	8-9
Chemicals.....	16	17	15	15	14	13	11	11	11	14.5	137	16	14-15
Canning and preserving.....	12	4	13	12	10	12	9	12	12	12	108	12	12
Boots and shoes.....	8	6	2	9	9	11	15	15	15	13	103	11	9-11
Baking and confectionery.....	2	1	7	7	8	5	7	5	1	2	45	2/3	5
Automobiles.....	17	19	18	6	3	8	13	18	17	14.5	133	14	14-17
Agricultural implements.....	1	5	14	1	² 2	1	² 2	1	3	5	35	1	2
Metal mining.....	13	14	6	2	5	4	4	6	5	9	68	5	5-6
Oil and gas producing.....	20	11	17	20	20	19	19	19	19	19	183	19	19
Coal mining.....	9	10	8	5	7	6	8	4	6	7	70	6/7	7

¹ Ratios of employment to production were computed and then ranked numerically in order of magnitude 1927 in each case being taken as the base year. In 1928, for example, employment held up best relative to production in the agricultural implements industry, which is given a rating of 1. Note the fluctuation in ranking over the period 1928-1937.

² Imputed from average of owner years.

NOTE.—Industries rated each year by dividing employment index by production index (1927=100).

APPENDIX D

NATIONAL INCOME AT NEARLY \$70,000,000,000 IN 1939

By ROBERT R. NATHAN, Chief, National Income Division

[Reprinted from Survey of Current Business, June 1940]

National income in the United States in 1939 totaled nearly \$70,000,000,000. Except for the \$71,200,000,000 total in 1937, the \$69,400,000,000 value of goods and services produced in 1939 was above that of any year since the \$82,900,000,000 peak recorded in 1929. With increased output in all industrial groups, the net value of production rose \$5,800,000,000 in 1939, or 9.1 percent, from the \$63,600,000,000 aggregate in 1938.

The large rise in 1939 resulted in considerable measure from the accelerated expansion in business activity which followed the outbreak of the war in September. As indicated by the index of income payments published regularly in the Survey of Current Business, the flow of income during the first half of 1939 was only moderately above the rate prevailing in 1938. During this 6-month period, the national income was being produced at an annual rate not much in excess of \$65,000,000,000. A definite rise began in the summer of 1939, and at the time of the outbreak of war early in September the national income rate closely approximated the average level for the year.

Under the impetus of anticipated war demand and a resulting sharp expansion in inventories, production in many industries rose substantially in the final months of 1939. Prices also increased during the early weeks of the European conflict and generally were maintained throughout the closing months of the year. The enlarged output at higher prices raised the flow of national income by the year end to an annual rate in excess of \$75,000,000,000. During the first 4 months of 1940, income contracted at approximately the same rate at which it had expanded in the final months of 1939; the flow of income in April 1940 had fallen to the 1939 average.

INCOME IN FIXED PRICES PROBABLY AT NEW RECORD IN 1939

The national income measured in prevailing prices reflects both changes in the quantity of goods and services produced and in the prices of these products. Changes in the dollar figures alone do not measure changes in the output of the Nation because of marked variations in the price level.

The "real" national income in 1939—that is, the dollar total adjusted for price changes—was at least equal to and probably above the previous record of 1929. Existing price series are not adequate to convert the dollar income figures into real income with precision, but the margin extant after making adjustments with readily available price series indicates the probability of a new record level of production of goods and services in the United States in 1939. Since the population

of the United States in 1939 was approximately 10,000,000 larger than in 1929, however, there is little doubt that the per capita real income in 1939 continued well below that of 1929. The dollar national income in 1939 was 16.3 percent below the 1929 total, but prices, as reflected in available price indexes, showed larger declines over the period. The cost of living of urban wage workers was 17.4 percent less than in 1929 and wholesale prices were down 19.1 percent. Neither the wholesale price index, which is a particularly sensitive series, nor the cost-of-living index, which applies only to items included in the budget of urban wage workers, is satisfactory for adjusting the dollar income figures for price changes. However, these price data and available production statistics warrant the conclusions drawn above.

Concepts and terminology.—The national income is designed to measure the aggregate output resulting from economic activities in the United States. In other words, it is an aggregate of the value of all food, clothing, shelter, services, and capital equipment which are created through the efforts of the individuals in the Nation. It is defined as the net value of all goods and services produced within a given period. The measure is net in the sense that the value of raw materials and of plant and equipment consumed in the process of production is deducted from the gross value of all goods and services produced. The value of capital consumption is represented by depreciation and depletion charges, which are deducted at a cost in arriving at the national income.

The national income is measured by adding together the net value of products of all producing units, including corporations, Government agencies, partnerships, and individual enterprises. Each of these producing units utilizes personal services and capital provided by individuals who both contribute to the productive process and share in its output. For their efforts, individuals receive income in the form of wages; salaries, interest, dividends, entrepreneurial withdrawals, and net rents. When these distributive shares are less than the net value of product, business enterprises retain undistributed earnings or positive savings. If income disbursed exceeds income produced, the difference, which represents a draft upon net worth, is termed "negative savings." Income disbursed plus business savings equals the national income. Thus, the national income is a measure of the net value of goods and services produced and also of the claims over these goods and services.

The concepts, terminology, and methods of measurement underlying the estimates presented in this article are generally the same as those presented in previous publications of the Department of Commerce. There have been moderate revisions in the estimates as new source material has become available. In the figures presented in this article, an appreciable increase in the estimates for the power and gas industry for all years has resulted from the inclusion of natural-gas activities for the first time in this study. The estimates of dividends and corporate savings for 1937 have been revised on the basis of corporate income-tax-return data from the Bureau of Internal Revenue. The 1938 and 1939 figures for these items are preliminary pending the publication of the income-tax data for these years.

TABLE 1.—*National income, by industrial divisions*
[Millions of dollars]

Item	1929	1930	1931	1932	1933	1934 ¹	1935	1936	1937	1938	1939
Total national income	82,885	68,901	54,310	40,074	42,430	50,317	55,870	65,165	71,172	63,610	69,378
Agriculture	7,258	5,622	3,729	2,551	3,419	4,553	5,276	5,970	6,378	5,432	5,635
Mining	1,883	1,327	748	524	590	991	1,028	1,299	1,530	1,072	1,232
Electric light and power and gas	1,425	1,324	1,240	1,096	1,026	1,127	1,152	1,233	1,380	1,365	1,384
Manufacturing	20,308	14,987	10,194	6,006	8,162	10,510	12,402	14,978	16,991	12,359	15,425
Contract construction	3,670	2,759	1,862	906	1,581	735	964	1,570	1,902	1,740	2,148
Transportation	7,108	6,155	4,946	3,622	3,587	3,817	4,133	4,705	5,088	4,361	4,807
Communication	1,047	1,011	907	722	640	679	723	770	839	808	863
Trade	11,314	9,245	7,415	5,280	6,031	6,971	7,608	8,516	9,131	8,393	9,136
Finance	8,915	7,836	6,441	4,318	4,318	4,630	5,131	5,749	6,189	5,837	5,983
Government, including work-program wages	6,330	6,438	6,459	6,487	6,563	7,923	7,632	9,446	9,153	9,846	9,884
Government, excluding work-program wages				6,355	5,917	6,202	6,584	7,063	7,370	7,701	8,015
Work-program wages				132	646	1,430	1,339	2,383	2,383	2,145	1,869
Service	9,615	8,725	7,343	5,579	5,321	6,181	6,828	7,643	8,477	8,374	8,374
Miscellaneous	4,012	3,472	2,967	2,393	2,192	2,518	2,695	2,897	3,161	3,102	3,319
Social security contribution of employers						3	7	299	950	1,119	1,196
Percentages of 1929											
Total national income	100.0	83.1	65.5	48.3	51.2	60.7	67.4	78.6	85.9	76.7	83.7
Agriculture	100.0	77.5	51.4	35.1	47.1	62.7	72.7	82.3	87.9	74.8	77.6
Mining	100.0	70.5	30.7	27.8	31.3	52.6	54.6	69.0	81.3	56.9	65.4
Electric light and power and gas	100.0	92.9	87.0	76.9	72.0	79.2	80.8	86.5	96.8	95.8	97.1
Manufacturing	100.0	73.8	50.2	29.6	40.2	51.8	61.1	73.8	83.7	60.9	76.0
Contract construction	100.0	75.2	50.7	24.7	15.8	20.0	26.3	42.8	51.8	47.7	58.5
Transportation	100.0	86.6	69.6	51.0	50.5	53.7	58.1	67.5	71.6	59.9	67.5
Communication	100.0	96.6	86.6	69.0	61.1	64.9	69.1	73.5	80.1	77.2	82.4
Trade	100.0	81.7	65.5	46.8	53.3	61.6	67.2	75.3	80.7	76.0	80.7
Finance	100.0	87.9	72.2	54.9	48.4	51.9	57.6	64.5	69.4	65.5	67.1
Government, including work-program wages	100.0	101.7	103.0	102.5	103.7	120.6	125.2	144.2	144.6	155.5	156.1
Government, excluding work-program wages	100.0	101.7	102.0	106.4	93.5	98.0	104.0	111.6	116.1	121.7	126.6
Work-program wages											
Service	100.0	90.7	76.4	58.0	55.3	64.3	71.0	79.5	88.2	83.9	87.1
Miscellaneous	100.0	86.5	74.0	59.6	54.6	62.8	67.2	72.2	75.8	77.3	82.7
Social security contributions of employers											
Bureau of Labor Statistics wholesale price index	100.0	90.7	76.6	68.0	69.2	78.6	83.9	84.8	90.6	82.5	80.9

¹ Estimates of dividends and interest and corporate savings for 1934 and for subsequent years are based on a different industrial classification than are the estimates of the items for earlier years because of a change in the Revenue Act of 1934. Special tabulations from the Bureau of Internal Revenue permitted the making of estimates for 1939 on the earlier basis. For specific items in certain industries the variations are substantial, but for total income the changes were small and the 2 estimates were averaged.

Manufacturing up one-fourth in 1939.—The business decline in 1938 and the subsequent recovery in 1939 were characterized by marked fluctuations in the output of the commodity-producing industries, which include agriculture, mining, manufacturing, and construction work done under contract. These industries accounted for more than 80 percent of the income decline in 1938 and two-thirds of the recovery in 1939. Thus, the cyclical decline in business activity which began in the fall of 1937 and continued through the first half of 1938 was largely confined to those areas of the economy which produce commodities, as contrasted with those creating services. The durable-goods industries, in particular, revealed sharp declines, with the non-durable-goods industries falling to a lesser extent and the service industries showing only moderate curtailment.

The same general pattern is shown for the 1939 expansion. Both manufacturing and construction increased by approximately one-fourth in 1939, with mining showing a gain of 15 percent and transportation a rise of 13 percent. For all other industrial groups the gains varied from a fractional rise for Government to 7 percent in the communication industry. The expansion in regular Government activities was offset by the drop of nearly \$300,000,000 in work-project wages.

Despite the 25-percent rise in 1939, the net value of product of all manufacturing industries was one-fourth lower in 1939 than in 1929. The income of agriculture was also nearly one-fourth below that of 1929, and mining continued more than one-third under the total of that year. After a moderate decline in 1938, construction increased in 1939 to the highest volume since 1930. Income produced in this industry declined more during the depression than that of any other industrial area, with the 1933 total being barely a sixth of the 1929 aggregate. Recovery in construction was slow through 1935 but thereafter it was rapid, with 1939 nearly 60 percent of the 1929 figure. Among public utilities, the power and gas industry revealed approximately the same income produced in 1939 as in 1929, whereas the communication industry was one-sixth lower. Government's contribution to the national income in 1939, including the work program, was more than half again as large as in 1929. Excluding work programs, the value of services rendered by all Government agencies in 1939 was one-fourth above the 1929 total.

Income disbursed in larger amount in 1939.—As indicated earlier, the national income is determined by adding together the income paid out by all producing units plus their positive or negative business savings. The estimate of business savings, being a residual item, is subject to a considerable margin of error and must be used with caution. All of the limitations of financial-statement items resulting from accounting techniques not adapted to economic purposes, tend to be centered in the savings item. Also, in the field of agriculture the break-down of net income of farmers between the withdrawals of the farm operator and business savings of the farm enterprise is based largely on arbitrary assumptions pending further data now in the process of preparation by the Bureau of Agricultural Economics.

TABLE 2.—Income paid out, by type of payment
(Millions of dollars)

Item	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Total income paid out.....	80,611	74,211	62,816	49,289	45,515	51,788	55,896	64,151	70,262	65,007	68,600
Total compensation of employees.....	52,776	47,919	40,362	31,516	29,592	34,247	37,239	42,703	47,542	44,301	46,768
Total salaries and wages.....	52,344	47,469	39,857	30,933	28,531	32,385	35,397	39,498	44,209	40,423	43,076
Salaries (selected industries) ¹	6,153	5,953	4,928	3,588	3,260	3,760	4,032	4,370	4,881	4,536	4,652
Wages (selected industries) ¹	14,915	12,332	9,371	6,482	6,786	8,515	9,656	11,166	13,068	10,232	11,630
Salaries and wages (all other industries).....	31,276	29,178	25,558	20,883	18,485	20,110	21,699	23,962	26,260	25,655	26,794
Total supplements to salaries and wages.....	432	450	505	563	1,091	1,362	1,842	3,205	3,333	3,878	3,692
Work program wages ²	—	—	59	132	646	1,430	1,339	2,383	1,783	2,145	1,869
Social security contributions of employers.....	—	—	—	—	—	—	7	299	950	1,119	1,196
Other labor income.....	432	450	446	431	415	429	496	523	600	614	627
Total dividends and interest.....	11,851	11,715	10,270	8,393	7,351	7,937	8,055	9,721	9,794	8,258	8,956
Dividends.....	5,945	5,634	4,280	2,727	2,193	2,725	2,931	4,651	4,752	3,370	4,124
Interest.....	5,906	6,081	5,990	5,666	5,158	5,212	5,124	5,070	5,042	4,888	4,832
Entrepreneurial withdrawals.....	12,620	11,903	10,148	8,156	7,364	8,149	8,911	9,818	10,413	10,473	10,826
Net rents and royalties.....	3,364	2,674	2,036	1,224	1,208	1,455	1,691	1,909	2,113	1,975	2,050
Percentages of 1929											
Total income paid out.....	100.0	92.1	77.9	61.1	56.5	64.2	69.3	79.6	87.2	80.6	85.1
Total compensation of employees.....	100.0	90.8	76.5	59.7	56.1	64.9	70.6	80.9	90.1	83.9	88.6
Total salaries and wages.....	100.0	90.7	76.1	59.1	54.5	61.9	67.6	75.5	84.5	77.2	82.3
Salaries (selected industries) ¹	100.0	96.8	80.1	58.3	53.0	61.1	65.5	71.0	79.3	73.7	75.6
Wages (selected industries) ¹	100.0	82.7	62.8	43.5	45.5	57.1	64.8	74.9	87.6	68.6	78.0
Salaries and wages (all other industries).....	100.0	93.3	81.7	66.8	59.1	64.3	69.4	76.6	84.0	82.0	85.7
Total supplements to salaries and wages.....	100.0	104.2	116.9	130.3	245.6	431.0	426.4	741.9	771.5	897.7	854.6
Work program wages ²	—	—	—	—	—	—	—	—	—	—	—
Social security contributions of employers.....	—	—	—	—	—	—	—	—	—	—	—
Other labor income.....	100.0	104.2	103.2	99.8	96.1	99.3	114.8	121.1	138.9	142.1	145.1

¹ Includes mining, manufacturing, steam railroads, Pullman, railway express, and water transportation.² Includes pay rolls and maintenance of Civilian Conservation Corps enrollees and pay rolls of Civil Works Administration, Federal Emergency Relief Administration, and the Federal Works Program projects plus administrative pay rolls outside of Washington, D. C., for all except the Federal Works Program. Area statistical office employees and their pay rolls under the Federal Works Program are included with the regular Federal Government employment and pay roll figures.

TABLE 2.—*Income paid out, by type of payment—Continued*
 [Millions of dollars]

Item	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
	Percentages of 1929										
Total dividends and interest.....	100.0	98.9	86.7	70.8	62.0	67.0	68.0	82.0	82.6	69.7	75.6
Dividends.....	100.0	94.8	72.0	45.9	26.9	45.8	49.3	76.2	79.9	56.7	69.4
Interest.....	100.0	103.0	101.4	96.9	87.3	88.2	86.8	86.8	83.4	82.8	81.3
Entrepreneurial withdrawals.....	100.0	94.3	80.4	64.6	58.4	64.6	70.6	77.8	85.7	83.0	85.8
Net rents and royalties.....	100.0	79.5	60.5	36.4	35.9	43.3	50.3	56.7	62.8	58.7	60.9
Bureau of Labor Statistics cost-of-living index.....	100.0	97.5	89.1	80.2	76.2	79.1	81.1	82.1	84.7	83.4	82.6

In 1938 the national income was nearly \$1,500,000,000 below the total income disbursed, indicating that part of the income distributed came from the existing resources of business enterprises rather than exclusively from current production. For corporations, negative savings in 1938 are estimated at more than \$2,000,000,000, which was in part offset by positive savings (primarily in agriculture) for noncorporate enterprises. Preliminary estimates based upon published statements of corporations reveal a sharp drop to about one-quarter billion dollars in negative corporate savings for 1939. For noncorporate enterprises, savings are estimated to be positive to the extent of approximately \$1,000,000,000 in 1939. Thus, while income disbursed in 1938 was nearly \$1,500,000,000 above the national income, in 1939 the national income exceeded income disbursed by about half that amount. Income distributed rose \$3,600,000,000 in 1939, as compared with a rise of \$5,800,000,000 in the national income.

Disbursements for the services of employees increased from \$44,300,000,000 in 1938 to \$46,800,000,000 in 1939. Exclusive of work-project wages the increase was \$2,800,000,000, or 6.5 percent. Work-project wages were nearly 13 percent lower in 1939 than in the preceding year. In those industries in which salaries and wages could be segregated, the fluctuations in wages continued to exceed those in salaries. Salaries in these industries were only slightly higher in 1939 than in 1938, while wages in the same industries rose nearly 14 percent. In 1938, wages fell more than one-fifth, as compared with a drop of less than one-tenth in salaries. With no major change in pay-roll tax rates, Social Security contributions of employees in 1939 closely paralleled the rise in all wages and salaries.

After the sharp decline of nearly 30 percent in 1933, dividend payments rose substantially in 1939, recovering more than half of the previous year's decline. Although the total of dividends paid in 1939 was nearly double that of 1933, it was approximately 30 percent below the 1929 peak. Interest payments declined slightly in 1939, extending the downward trend which began in 1931. The 1939 total was about one-fifth less than the peak figure recorded in 1930. The fall in interest payments since 1930 has resulted from widespread mortgage and bond defaults and a large amount of refinancing at lower interest rates.

Percentage distribution of income components.—With the exception of a rather substantial increase in dividends and a decline in entrepreneurial withdrawals and work-program wages, the component elements of income paid out in 1939 remained in much the same relationship to total disbursements as that which prevailed in 1938. Compensation of employees accounted for 68.2 percent of the total income disbursed in 1939, fractionally above the 1938 proportion and the highest proportion for any of the years covered by the Department of Commerce estimates. Salaries and wages excluding work-project wages accounted for 62.8 percent of the 1939 income paid out. Work-project wages represented 2.7 percent of the total. Social Security contributions of employers, which are included in the income distributed since they accrue to the benefit of the employees, comprised slightly less than 2 percent of income paid out.

TABLE 3.—*Percentage distribution of income paid out by type of payment*

Item	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Total income paid out.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total compensation of employees.....	65.5	64.6	64.3	63.9	65.0	65.1	66.6	66.6	67.7	68.1	68.2
Total salaries and wages.....	65.0	64.0	63.5	62.7	62.7	62.5	63.3	61.6	62.9	62.2	62.8
Total supplements to salaries and wages.....	.5	.6	.8	1.2	2.3	3.6	3.3	5.0	4.8	5.9	5.4
Work-program wages.....	—	—	.1	.3	1.4	2.7	2.4	3.7	2.5	3.3	2.7
Social security contributions of employers.....	—	—	—	—	—	—	—	.5	1.4	1.7	1.8
Other labor income.....	.5	.6	.7	.9	.9	.9	.9	.8	.9	.9	.9
Total dividends and interest.....	14.7	15.8	16.3	17.0	16.2	15.4	14.4	15.2	13.9	12.7	13.1
Dividends.....	7.4	7.6	6.8	5.5	4.8	5.3	5.2	7.3	6.7	5.2	6.0
Interest.....	7.3	8.2	9.5	11.5	11.4	10.1	9.2	7.9	7.2	7.5	7.1
Entrepreneurial withdrawals.....	15.6	16.0	15.2	16.6	16.1	15.7	16.0	15.2	15.4	16.2	15.7
Net rents and royalties.....	4.2	3.6	3.2	2.5	2.7	2.8	3.0	3.0	3.0	3.0	3.0

¹ Includes pay roll and maintenance of Civilian Conservation Corps enrollees and pay rolls of Civil Works Administration, Federal Emergency Relief Administration and the Federal Works Program projects plus administrative pay rolls outside of Washington, D. C., for all except the Federal Works Program. Area Statistical Office employees and their pay rolls under the Federal Works Program are included with the regular Federal Government employment and pay-roll figures.

Following a sharp decline to a new low of 12.7 percent in 1938, combined dividend and interest payments accounted for a slightly larger percentage of the total income paid out in 1939. However, the 13.1 percent of income paid out which took the form of dividends and interest was lower than in any other year studied except for 1938. Dividends accounted for 6 percent of income disbursements in 1939, as compared with 5.2 percent in 1938 and a high of 7.6 percent in 1930. Interest payments represented a new low in 1939 of only 7.1 percent of total income disbursed. Rents continued to account for about 3 percent of total income disbursed in 1939.

Employment and per capita earnings higher in 1939.—Table 4 shows that both the number of employees and their per capita income was higher in 1939 than in 1938. Average annual earnings per full-time worker in all industries increased from \$1,284 in 1938 to \$1,329 in 1939. The average in 1939 was higher than in any year since 1931. It should be noted that average earnings per employee do not represent the average earnings of all workers who were employed at any time during the year, but rather the average earnings per worker who appeared on pay rolls regularly. In a few instances it is possible to adjust for part-time work within pay periods; but, by and large, the number of workers used for deriving average annual earnings represents an average of the number working in each pay period. Therefore, full-time as used here means regularly throughout the year, but not necessarily full-time within each week or month.

TABLE 4.—*Number of employees and the per capita income of employees*¹

Item	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
NUMBER OF EMPLOYEES (THOUSANDS)											
All employees ¹	35,563	33,122	29,715	26,222	26,133	28,402	29,725	31,858	33,768	31,239	32,419
Salaried employees (selected industries) ²	2,478	2,373	2,050	1,693	1,634	1,831	1,922	2,068	2,206	2,064	2,100
Wage earners (selected industries) ³	16,964	9,619	8,155	6,877	7,430	8,553	9,021	9,765	10,618	8,832	9,404
Salaried employees or wage earners (all other industries).....	22,121	21,100	13,510	17,652	17,069	18,018	18,782	20,025	20,944	20,343	20,915
PER CAPITA INCOME OF EMPLOYEES											
All employees ¹	\$1,472	\$1,433	\$1,341	\$1,130	\$1,092	\$1,140	\$1,191	\$1,240	\$1,309	\$1,264	\$1,329
Salaried employees (selected industries) ²	2,483	2,511	2,404	2,119	1,995	2,054	2,098	2,113	2,213	2,198	2,215
Wage earners (selected industries) ³	1,360	1,278	1,149	943	913	996	1,071	1,143	1,231	1,159	1,237
Salaried employees or wage earners (all other industries).....	1,414	1,383	1,310	1,183	1,083	1,116	1,155	1,197	1,254	1,261	1,281
PERCENTAGES OF 1929											
NUMBER OF EMPLOYEES											
All employees ¹	100.0	93.1	83.6	73.7	73.5	79.9	83.6	89.6	95.0	87.8	91.2
Salaried employees (selected industries) ²	100.0	95.8	82.7	68.3	65.9	73.9	77.6	83.5	89.0	83.3	84.7
Wage earners (selected industries) ³	100.0	88.0	74.4	62.7	67.8	78.0	82.3	89.1	96.8	80.6	85.8
Salaried employees or wage earners (all other industries).....	100.0	95.4	88.2	79.8	77.2	81.5	84.9	90.5	94.7	92.0	94.6
PER CAPITA INCOME OF EMPLOYEES											
All employees ¹	100.0	97.4	91.1	80.2	74.2	77.4	80.9	84.2	88.9	87.9	90.3
Salaried employees (selected industries) ²	100.0	101.1	96.8	85.3	80.3	82.7	84.5	85.1	89.1	88.5	89.2
Wage earners (selected industries) ³	100.0	94.0	84.5	69.3	67.1	73.2	78.8	84.0	94.5	90.5	91.0
Salaried employees or wage earners (all other industries).....	100.0	97.8	92.6	83.7	76.6	78.9	81.7	84.7	88.7	89.2	90.6
Bureau of Labor Statistics cost-of-living index.....	100.0	97.5	89.1	80.2	76.2	79.1	81.1	82.1	84.7	83.4	82.6

¹ The estimates of the number employed are averages for the year and represent full-time-equivalent numbers for industries in which data permit such adjustments.² Does not include employers and self-employed persons, such as farmers, merchants, independent professional practitioners, etc., nor work-project employees and unpaid family farm labor.³ Includes mining, manufacturing, steam railroads, Pullman, railway express, and water transportation.

A comparison of changes in the per capita income of employees and in the Bureau of Labor Statistics index of cost of living of urban wage earners indicates a considerably higher real income per full-time worker in 1939 than in any previous year. It should be noted, however, that with a marked increase in unemployment in 1939 relative to 1929, the employed workers probably are not, in many instances, engaged full time; and, also, they must support other employable persons in their families without jobs. However, the figures do indicate higher rates of return in terms of goods and services for each fully employed worker.

The figures in table 5 reveal trends from year to year in salaries and wages of workers for approximately 40 industrial categories. In this break-down it is interesting to note the marked divergencies among industries in pay-roll changes from year to year and from one phase of the business cycle to another. In 1939 wages declined in agriculture and remained practically unchanged in such areas as the mining industry, the food and tobacco industry, the power and gas industry, and others. On the other hand, substantial increases (as large as 25 percent, or more) are shown for the metal and metal-products industry and the construction industry. Similarly, the declines from 1929 to the depression lows and the subsequent recoveries varied greatly among different major industrial groups and subgroups. Pay rolls in 1939 were higher than in 1929 in the food and tobacco, air transportation, electric light and power, gas, and professional-service industries, as well as in all of the categories of government.

TABLE 5.—Total compensation of employees, by industrial groups, 1929-39

Item	Absolute numbers (in millions of dollars)												Percentages of 1929								
	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Total compensation of employees 1	52,776	47,919	40,362	31,516	29,592	34,247	37,239	42,703	47,542	44,301	46,768	90.8	76.5	59.7	56.1	64.9	70.6	80.9	90.1	83.9	88.6
Total salaries and wages.....	52,344	47,469	39,857	30,953	28,531	32,385	35,397	39,498	44,209	40,423	43,076	90.7	76.1	59.1	54.5	61.9	67.6	75.5	84.5	77.2	82.3
Agriculture, total.....	1,284	1,134	847	584	517	558	639	690	794	758	750	88.3	66.0	45.5	40.3	43.5	49.8	53.7	61.8	59.0	58.4
Mining, total.....	1,602	1,407	1,027	709	725	952	998	1,132	1,261	1,046	1,059	87.8	64.1	44.3	45.3	59.4	62.3	70.7	78.7	65.3	66.4
Anthracite.....	257	247	200	146	128	153	135	129	123	101	104	96.1	77.8	56.8	49.8	59.5	52.5	50.2	47.9	39.3	40.5
Bituminous coal.....	636	531	401	275	297	413	443	520	534	416	423	83.5	63.1	43.2	46.7	64.9	69.7	81.8	84.0	65.4	66.5
Metal.....	212	177	111	67	57	77	99	138	205	142	167	83.5	52.4	26.9	26.9	36.3	46.7	65.1	96.7	37.0	74.1
Nonmetal.....	151	139	108	68	62	76	84	105	120	115	125	92.1	71.5	45.0	41.1	50.3	53.6	63.5	73.5	74.2	82.8
Oil and gas.....	346	313	207	163	181	233	237	240	279	272	250	90.5	59.8	47.1	52.3	67.3	63.5	69.4	90.6	78.6	72.3
Manufacturing, total.....	15,766	13,591	10,565	7,391	7,464	9,311	10,493	11,914	13,963	11,344	12,678	86.2	67.0	46.9	47.3	59.1	66.6	75.6	86.6	72.0	80.4
Food and tobacco.....	1,550	1,480	1,256	1,017	1,044	1,268	1,329	1,418	1,572	1,527	1,549	95.5	81.0	65.6	67.4	81.8	85.7	91.5	91.4	98.5	99.9
Paper, printing and publishing.....	1,615	1,620	1,383	1,063	950	1,093	1,266	1,420	1,351	1,351	1,351	100.3	85.6	65.8	58.8	67.7	72.3	78.4	87.3	83.7	84.4
Textiles and leather.....	2,898	2,412	2,108	1,528	1,676	1,957	2,175	2,263	2,421	2,054	2,241	83.2	72.7	52.7	57.8	67.5	75.1	73.3	83.5	77.3	77.3
Construction materials and furniture.....	1,811	1,445	983	590	608	631	696	759	896	1,100	1,292	79.8	54.6	32.6	33.6	41.9	49.5	60.7	71.3	59.9	66.2
Chemicals and petroleum refining.....	858	817	672	526	530	631	677	721	731	735	785	95.2	78.3	61.3	61.8	73.5	78.9	84.0	94.1	91.5	95.0
Metal and metal products.....	5,812	4,698	3,271	2,038	2,075	2,911	3,311	4,335	5,098	3,784	4,624	80.8	56.3	35.1	35.7	50.1	60.4	74.6	94.6	85.1	79.6
Miscellaneous and rubber.....	622	521	400	285	289	364	399	461	534	425	488	84.8	64.3	45.8	46.5	58.5	61.1	74.1	85.9	83.3	78.5
Central administrative offices.....	600	598	487	344	292	328	338	345	376	361	367	99.7	81.2	57.3	48.7	51.7	56.3	57.5	62.7	60.2	61.2
Contract construction, total.....	3,065	2,302	1,620	865	528	638	793	1,257	1,528	1,385	1,667	75.1	52.9	28.2	17.2	20.8	25.9	41.0	49.9	45.2	54.4
Transportation, total.....	4,939	4,491	3,770	2,826	2,603	3,480	3,104	3,495	3,825	3,412	3,632	90.9	76.3	57.2	52.7	57.5	62.8	70.8	77.4	69.1	73.5
Steam railroads, Pullman and ex- press.....	3,228	2,850	2,333	1,685	1,560	1,689	1,831	2,056	2,218	1,961	2,089	88.3	72.3	52.2	48.3	52.3	56.7	63.7	68.7	60.7	64.7
Water transportation.....	472	443	374	285	297	323	376	434	507	417	456	93.9	79.2	60.4	62.9	68.4	79.7	91.9	107.4	88.3	93.6
Motor transportation and public warehouses.....	719	711	627	500	435	498	558	645	715	653	700	98.9	87.2	69.5	60.5	60.3	77.6	89.7	99.4	90.8	97.4
Street railways.....	464	434	384	312	268	281	285	290	312	308	312	93.5	82.8	67.2	57.8	61.4	66.4	64.4	68.4	67.2	67.2
Air transportation.....	6	9	12	13	14	16	20	27	44	31	44	150.0	200.0	216.7	216.7	233.3	266.7	333.3	400.0	450.0	516.7
Pipe lines.....	50	44	40	31	30	35	38	41	49	46	44	88.0	80.0	62.0	60.0	70.0	76.0	82.0	98.0	92.0	88.0
Power and gas, total.....	656	651	584	483	450	497	540	594	665	668	671	99.2	89.0	73.6	68.6	75.8	82.3	90.5	101.4	101.3	102.3
Electric light and power.....	439	448	396	312	286	313	342	385	447	449	452	102.1	90.2	71.1	65.1	71.3	77.9	87.7	101.8	102.3	103.0
Gas.....	217	203	188	171	164	184	198	209	218	219	219	93.5	86.6	78.8	75.6	84.8	91.2	96.3	100.5	100.9	100.9

Communication, total.....	707	717	641	534	402	492	507	539	606	610	621	101.4	90.7	75.5	65.3	69.6	71.7	76.2	85.7	86.3	87.8
Telephone.....	590	597	537	458	304	415	432	458	517	530	540	101.2	91.0	77.6	68.8	70.3	73.2	77.6	87.6	89.8	91.5
Telegraph.....	117	120	104	76	68	77	75	81	89	80	81	102.6	88.9	65.0	58.1	65.8	64.1	69.2	76.1	68.4	69.2
Trade, total.....	8,307	7,718	6,716	5,247	4,709	5,209	5,510	5,897	6,520	6,270	6,442	92.9	80.8	63.2	56.7	62.7	66.3	71.0	78.5	75.5	77.5
Retail trade.....	5,218	4,795	4,216	3,292	2,940	3,224	3,365	3,622	4,009	3,828	3,947	91.9	80.8	63.1	57.1	61.8	64.5	69.4	76.8	73.4	75.6
Wholesale trade.....	3,089	2,923	2,500	1,955	1,729	1,985	2,145	2,275	2,511	2,442	2,495	94.6	80.9	63.3	56.0	64.3	69.4	73.6	81.3	79.1	80.8
Finance, total ²	2,503	2,404	2,138	1,898	1,705	1,764	1,794	1,925	2,035	1,962	1,993	96.0	85.4	75.8	68.1	70.5	71.7	76.9	81.3	78.4	79.6
Banking.....	809	797	725	617	534	565	562	573	597	606	619	98.5	89.6	76.3	66.0	69.8	69.5	70.8	73.8	74.9	76.5
Insurance.....	984	908	838	763	803	835	890	936	920	930	907	92.3	85.2	77.5	81.6	85.7	90.3	95.1	93.5	94.5	94.5
Security brokerage and real estate.....	710	626	505	443	408	395	389	463	502	436	444	88.2	71.1	62.4	57.5	55.8	54.8	65.2	70.7	61.4	62.5
Government, total.....	4,945	5,070	5,058	4,905	4,391	4,553	4,939	5,388	5,616	5,928	6,195	102.5	102.3	99.2	88.8	92.1	100.3	109.0	113.6	119.9	125.3
Federal ³	1,398	1,425	1,444	1,359	1,222	1,415	1,678	1,893	1,908	2,074	2,074	101.9	103.3	97.2	87.4	101.2	120.0	135.4	136.5	138.1	148.4
State.....	1,392	1,408	1,431	1,359	1,222	1,415	1,678	1,893	1,908	2,074	2,074	101.9	103.3	97.2	87.4	101.2	120.0	135.4	136.5	138.1	148.4
City.....	1,167	1,194	1,138	1,111	934	954	976	1,040	1,076	1,204	1,237	102.3	97.5	95.2	80.0	81.7	83.6	89.1	92.2	103.2	106.0
County, township, and minor units.....	376	386	382	377	331	337	331	372	396	420	442	102.7	101.6	100.3	88.0	89.6	93.4	98.9	105.3	111.7	117.6
Public education.....	1,612	1,657	1,663	1,624	1,490	1,420	1,431	1,552	1,645	1,717	1,761	102.8	103.2	100.7	92.4	88.1	91.9	96.3	102.0	106.5	109.2
Service, total.....	6,373	5,903	5,094	4,075	3,630	4,114	4,504	4,982	5,546	5,256	5,463	92.6	79.9	63.9	57.0	64.6	70.7	78.2	87.0	82.5	85.7
Professional service ⁴	1,224	1,253	1,193	1,095	1,011	1,014	1,057	1,134	1,213	1,253	1,283	102.4	97.5	89.5	82.6	82.8	86.4	92.6	99.1	102.4	104.7
Personal service ⁵	2,078	1,942	1,698	1,336	1,158	1,408	1,586	1,763	1,934	1,814	1,871	93.5	81.7	64.3	55.7	67.8	76.3	84.8	93.1	87.3	90.0
Recreation and amusement ⁶	478	438	364	293	259	283	316	355	410	394	413	91.6	76.2	61.3	54.2	59.2	66.1	74.3	83.8	82.4	86.4
Business service ⁷	456	427	382	307	277	312	327	349	379	368	375	83.6	83.8	60.7	68.4	67.1	71.7	76.5	83.1	80.7	82.2
Miscellaneous and domestic service ⁸	2,137	1,843	1,457	1,044	925	1,097	1,218	1,381	1,610	1,427	1,457	86.2	68.2	48.9	43.3	51.3	57.0	61.6	75.3	66.8	71.2
Miscellaneous, total.....	2,197	2,081	1,797	1,436	1,347	1,457	1,556	1,685	1,850	1,784	1,905	94.7	81.8	65.4	61.3	66.3	70.8	76.7	81.2	81.2	86.7
Work-program wages.....			59	132	646	1,430	1,339	2,383	1,783	2,145	1,869										
Employers' contribution to social security.....						3	7	299	950	1,119	1,196										
Other labor income.....	432	450	446	431	415	429	496	523	600	614	627	104.2	103.2	99.8	96.1	99.3	114.8	121.1	138.9	142.1	145.1

¹ Includes salaries and wages, work project wages, compensation for injuries, pensions granted under formal private plans, and contributions of employers to social security. The industrial classification covers only salaries and wages.

² Does not include certain miscellaneous financial institutions which have been included in "Miscellaneous."

³ Does not include work project wages.

⁴ Includes religious, private educational, curative, legal, accounting, and engineering (consulting) activities.

⁵ Includes hotels, restaurants, laundries, cleaning and dyeing establishments, apartment houses and office buildings, barber and beauty shops, etc.

⁶ Includes motion-picture production and exhibition, radio broadcasting, and other activities primarily providing entertainment.

⁷ Includes advertising agencies, trade associations, chambers of commerce, and other enterprises serving business establishments.

⁸ Includes domestic service, and various industries providing service on automobiles, radios, elevators, watches, and other commodities.

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